NATION BEFORE SERVICE:

THE EVOLUTION OF JOINT OPERATIONS TO A CAPABILITIES-BASED MINDSET

BY

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14. ABSTRACT

This thesis constitutes an analysis of a newly developed paradigm governing future inter-service operations. Globally Integrated Operations is currently being promoted by the Chairman of the Joint Chiefs of Staff as the model upon which the future Joint Force should be based. To set the stage for an assessment of the need for, and viability of, Globally Integrated Operations, I first analyze the evolution of attitudes within the US DOD regarding inter-service operations. From the US Civil War through to the modern-day operations of OEF and OIF, the historical record indicates that the currently prescribed shift within the Joint Force is not unique. The prism through which this evolution is examined consists of three principles: the de jure, the de facto, and the available technology; which, together, have resulted in differing degrees of unity of effort, in turn producing shifts in attitudes on inter-service operations. Having demonstrated that the mindset toward and employment of inter-service operations has continuously evolved, I next identify the components of the current presumptive anomaly that necessitate the adoption of a new paradigm. Through the evaluation of the Joint Force???s ability to meet mandates of the Goldwater-Nichols Act of 1986 and expectations of the future strategic environment, I conclude that the current construct of, and prevalent attitude regarding, the Joint Force is not capable of effectively addressing future security threats. Ultimately, this shortfall places the nation???s ability to project power globally in the future at risk. Finally, I examine the various aspects of the recently unveiled concepts of Globally Integrated Operations and Cross-Domain Synergy. Elements of Cross-Domain Integration, specifically, with a focus on a capabilities-based approach, are applied to counter risks and concerns left unaddressed within published concepts of Globally Integrated Operations. I conclude that, while Globally Integrated Operations is a suitable driver for the next phase of evolutionary change, it falls short in several areas. This can be remediated by recognizing the need to apply joint capabilities where needed, across all domains, rather than focusing on the application of service-specific forces. This must be a priority if we are to create a more holistic and effective paradigm for the application of the future Joint Force.

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The undersigned certify that this thesis meets master's-level standards of research, argumentation, and expression.

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DISCLAIMER

The conclusions and opinions expressed in this document are those of the author. They do not reflect the official position of the US Government, Department of Defense, the United States Air Force, or Air University.

ABOUT THE AUTHOR

Major Mark Wass was commissioned in 2000 after graduating from Washington State University, where he majored in architecture. After attending Undergraduate Navigator Training and Electronic Warfare Training, Major Wass was stationed at Dyess AFB assigned to fly the B-1B Lancer. After three combat deployments in support of Operations Enduring Freedom and Iraqi Freedom, Major Wass attended the USAF Weapons School, graduating in June 2007. Following a fourth deployment supporting OEF and OIF as the 34 Bomb Squadron Weapons Officer, Major Wass served as the 28 Bomb Wing Weapons officer where he deployed in support of Operation Odyssey Dawn. In 2011, Major Wass attended the USAF Air Command and Staff College where he was selected to attend the School of Advanced Air and Space Studies.

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ABSTRACT

This thesis constitutes an analysis of a newly developed paradigm governing future inter-service operations. Globally Integrated Operations is currently being promoted by the Chairman of the Joint Chiefs of Staff as the model upon which the future Joint Force should be based. To set the stage for an assessment of the need for, and viability of, Globally Integrated Operations, I first analyze the evolution of attitudes within the US DOD regarding inter-service operations. From the US Civil War through to the modern-day operations of OEF and OIF, the historical record indicates that the currently prescribed shift within the Joint Force is not unique. The prism through which this evolution is examined consists of three principles: the *de jure*, the *de facto*, and the available technology; which, together, have resulted in differing degrees of unity of effort, in turn producing shifts in attitudes on inter-service operations. Having demonstrated that the mindset toward and employment of inter-service operations has continuously evolved, I next identify the components of the current presumptive anomaly that necessitate the adoption of a new paradigm. Through the evaluation of the Joint Force's ability to meet mandates of the Goldwater-Nichols Act of 1986 and expectations of the future strategic environment, I conclude that the current construct of, and prevalent attitude regarding, the Joint Force is not capable of effectively addressing future security threats. Ultimately, this shortfall places the nation's ability to project power globally in the future at risk. Finally, I examine the various aspects of the recently unveiled concepts of Globally Integrated Operations and Cross-Domain Synergy. Elements of Cross-Domain Integration, specifically, with a focus on a capabilities-based approach, are applied to counter risks and concerns left unaddressed within published concepts of Globally Integrated Operations. I conclude that, while Globally Integrated Operations is a suitable driver for the next phase of evolutionary change, it falls short in several areas. This can be remediated by recognizing the need to apply joint capabilities where needed, across all domains, rather than focusing on the application of service-specific forces. This must be a priority if we are to create a more holistic and effective paradigm for the application of the future Joint Force.

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Introduction

Throughout the recorded history of military conflict, commanders that have employed multiple forms of military power in cooperative methods have found greater success than those that relied upon a single service approach. Thucydides' account of the Peloponnesian War offers perhaps the earliest evidence in this regard, suggesting that it was through the combination of naval and land power that the Spartans and Syracusans were able to eventually overcome the Athenians.[1] Centuries later, historian Richard Overy similarly attributed the ultimate downfall of the Germans during World War II (WWII) to their limited employment of airpower.[2] Although he focused on a single domain, Overy's concepts easily translate to the military as a whole. More often than not, militaries achieve greater advantage through the combined efforts of multiple disciplines rather than with a singularly focused effort. Such a concept is not so foreign to military strategists and professionals today. However, it was not very long ago that such a paradigm was ridiculed, or worse, ignored. Over time, perspectives have evolved. However, there remains significant consternation regarding innovation within the military, the initiation of which requires a crisis of some kind.

Historian Edward Constant argued in 1980 that radical technological changes require an impetus. He claimed that communities of practitioners respond to presumptive anomalies.[3] A handful of years later, political scientist Barry Posen, similarly argued that

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[1] Thucydides, *The Landmark Thucydides: A Comprehensive Guide to the Peloponnesian War*, ed. Robert B Strassler, trans. Richard Crawley (New York: Simon & Schuster, 1998), 459.
[2] Richard J. Overy, *The Air War, 1939-1945* (Washington, DC: Potomac Books, Inc., 2005), 203–204.
[3] Edward W. Constant, *The Origins of the Turbojet Revolution*, Johns Hopkins Studies in the History of Technology new ser., no. 5 (Baltimore, MA: Johns Hopkins University Press, 1980), 15. Constant argued that a presumptive anomaly occurs "not when the conventional system fails in any absolute or objective sense, but when assumptions derived from science indicate either that under some future conditions the conventional system will fail (or function badly) or that a radically different system will do a much better job" (page 15).

organizations such as the US military require a crisis to drive them to make difficult transitions.[4] In 2013, the United States Department of Defense (DOD) finds itself on the brink of such a crisis; the world strategic environment is rapidly changing, the US government faces significant budgetary problems, and the current concepts of Joint Operations have plateaued in applicability.[5] These presumptive anomalies beg the question, how should the US DOD evolve beyond the principles of Joint Operations to better wage future wars?

Posen asserts innovation within the military is a nearly insurmountable challenge. He stated, "Because each service is concerned for its autonomy, a group of services is not likely to produce an agreed multi-service strategy or doctrine that does anything more than combine their independent service doctrines. Such a strategy may set priorities among services, but these priorities are likely to reflect traditional agreements on budget shares, not any serious strategic thinking."[6] Posen further identified three obstacles in innovations to military cultures that have hampered, and will continue to hamper progress: 1) institutionalism makes innovation rare; 2) innovation creates uncertainty, which is counter to organizational desires; and 3) new technology untested in combat is unlikely to serve as a catalyst for innovation.[7]

The original question of how to advance US military doctrine, juxtaposed with Posen's comments, generated additional questions that further influenced the direction of

[4] Barry Posen, *The Sources of Military Doctrine: France, Britain, and Germany Between the World Wars* (Ithaca, NY: Cornell University Press, 1984), 59.
[5] United States Joint Forces Command, *Joint Operating Environment, 2010* (Norfolk, VA: United States Joint Forces Command, 2010); Todd Harrison and Mark Gunzinger, *Strategic Choices Navigating Austerity* (Washington, DC: Center for Strategic and Budgetary Assessments, 2012); United States Joint Chiefs of Staff, *The National Military Strategy of the United States of Amercia, 2011, Redefining America's Military Leadership* (Washington, DC: Joint Chiefs of Staff, 2011).
[6] Posen, *The Sources of Military Doctrine*, 226.
[7] Posen, *The Sources of Military Doctrine*, 54–55.

this paper. First, how did the US DOD's consideration of inter-service operations--the combination of forces from two or more services--change over time? Second, has the current concept of inter-service operations, now called Joint Operations, done all that it can to facilitate effective military operations? Third, what do future concepts of inter-service operations look like, and are they enough? This paper offers responses to these questions and attempts to carry the ball a few more yards down the field as the DOD determines how to evolve to better address an uncertain future.

The first chapter examines the evolution of unity of effort and its impact on the success of inter-service operations. It directly counters Posen's assertion that innovation rarely occurs by demonstrating that over time concepts of how to best combine forces have changed and become more effective in nature. While Posen focused on the inter-war years, this paper draws from a wider swath of history, ranging from the US Civil War through contemporary operations in Afghanistan and Iraq. During the US Civil War, commanders saw inter-service operations through a lens of separation; that is there existed little if any appreciation for potential combined effects, and the Army and Navy tended to avoid each other. By WWII and Vietnam, perspectives had changed and inter-service operations were deconflicted in nature; there was a degree of understanding of the advantage to integrating efforts, but the services resisted subordinance to each other. In Operation Desert Storm (ODS), the Joint Force executed operations within a concept of coordinated efforts; some commanders saw the advantages to inter-service operations, but the majority continued to work within institutional lanes. Finally, Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF), demonstrated a nature of synchronization within the DOD; technological advances and the nature of the

operational environment necessitated the focused scheduling of effects. This chapter identifies the three primary factors governing changes in the degree of unity of effect as *de jure*--of law of the day--; *de facto*--of practice of the day--; and the available technology. Understanding how these factors play against each other will provide insight into potential approaches for effectively navigating and shaping future evolutions of inter-service operations.

Chapter Two examines the presumptive anomalies the Joint Force faces and analyzes the concepts that have dictated the nature of inter-service operations for the past 27 years. Here I examine how the current paradigm of Joint Operations fails to provide answers to all questions posed to it. I question whether the current Joint Force has done all it can to effectively achieve the mandates of the Goldwater-Nichols Act. Through an examination of *Joint Operating Environment 2010 (JOE 2010),* I argue that concepts of Joint Operations, as they currently stand, have ceased making advances in effectiveness and that the anomalies have become so great in number as to necessitate a paradigm shift. In 2001, General David Deptula identified the need for change within the Joint Force. He argued that "how we fight in the future, how we will define success in warfare and--perhaps most important of all--the nature and type of forces that we must field to deal with emerging and future threats to our national security interest," require innovation of the military's construct.[8] This comment, and others like it, strongly indicates that the Joint Force concept has plateaued and the US DOD is not integrated as well as it should be to counter future adversaries. In this way, the conversation comes full circle back to

[8] Gen David A Deptula, *Effects-Based Operations: Change in the Nature of Warfare*, Defense and Airpower Series (Arlington, VA: Aerospace Education Foundation, 2001), iii.

the original question. How should the US military evolve beyond Joint Operations to wage future wars?

Chapters Three and Four present a new paradigm for consideration. Chapter Three focuses on the concepts currently being promoted by the Joint Staff J7 and the Chairman of the Joint Chiefs of Staff (CJCS). Introduced in the *Joint Operational Access Concept 2012* (*JOAC 2012*) and *Capstone Concept for Joint Operations 2020* (*CCJO 2020*), Globally Integrated Operations and Cross-Domain Synergy are placed center stage as means of advancing unity of effort and thereby efficacy of inter-service operations. Elements of Cross-Domain Integration, which offers a means to strengthen and round out the concepts in the *JOAC 2012* and *CCJO 2020,* are woven into these recommendations. Chapter Four continues the discussion on Cross-Domain Integration concepts by addressing the need for a capabilities-based approach to inter-service operations.[9] The challenge is not to choose one option over the other, but to come to the realization that adoption of a mindset focused on the employment of capabilities across all domains is required in order to maximize the effectiveness of future inter-service operations. Countering Posen's pessimistic assessment of the DOD's ability to change, Stephen Rosen, Harvard professor of national security and military affairs, argues that military organizations can and do innovate in response to perceived changes in the security environment.[10] The historical accounts in this paper strongly support Rosen's position that evolutionary changes have occurred regularly within the DOD throughout history

[9] Originally, the options presented in Chapters Three and Four were seen as divergent or exclusive courses of action. That is, if one option were taken, the other could not be taken. As research progressed, it became apparent that, rather than being a fork in the road, the two options were really just two more stepping stones along the same path identified in Chapter One in the evolution of inter-service operations.
[10] Stephen Peter Rosen, *Winning the Next War: Innovation and the Modern Military* (Ithaca, NY: Cornell University Press, 1991), 251.

and are occurring at an even higher pace today. The next evolution of inter-service operations called for in the *JOAC 2012* and *CCJO 2020* is not an insurmountable challenge as Posen suggests. Rather, the presumptive anomaly that shouts of the requirement to change or risk loss of the nation's global influence is the very impetus required to impel change. Key leaders are pointing the way. The future of the Joint Force and security of the nation depend upon military practitioners turning toward a paradigm focused on effectively employing joint capabilities across all domains in an integrated manner.

Chapter 1

The Evolution of Inter-Service Doctrine

Over the course of US military history, the notion of what constitutes inter-service operations, their value, and how they should be accomplished has continually evolved.[1] Doctor Richard Meinhart, Professor of Defense and Joint Process at the United States Army War College, argued that this progression can be observed in the way that planning and execution of Joint Operations has evolved since the signing of the Goldwater-Nichols Act of 1986.[2] He, however, focused strictly on Joint Operations over the last quarter century, rather than on inter-service operations writ large. This chapter displays that the way military professionals have approached inter-service relationships has never been static. Counter to Political Scientist Barry Posen's arguments that military innovation requires the input of politicians, the DOD has continued to seek out ways to become more effective and those efforts mostly came from within military ranks.[3] The idea that the DOD can adjust its way of doing business is not radical, but very well established when the larger picture of history is considered.

Three foundational principles inform how strategists have planned and executed inter-service operations throughout the major conflicts in which the US military has

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[1] The term "inter-service operations" is used here as a generic term meaning operations conducted by more than one service, to simplify the discussion. The term commonly used during the American Civil War was "combined operations," which involved the efforts of both the Army and Navy. However, that term has come to mean operations that include more than one nation's forces. Use of the term "Joint Operations" would cause confusion with the concept and principles that are used by today's DOD and which share few similarities with the techniques employed in the Civil War.

[2] As quoted, Lt Col Erik Hansen, "Goldwater-Nichols: Failing to Go the Distance," in Joint Forces AY-12 (Maxwell AFB, AL: Air University Press, 2011), 7. Dr. Meinhart identified three phases of evolution within Joint Operations: deconfliction, interoperability, and finally interdependence (page 7). While Meinhart limits his consideration of evolutionary phases to the years after the establishment of the Goldwater-Nichols Act of 1986, this paper considers a broader range of data to see if Meinhart's concepts have greater applicability.

[3] Barry Posen, *The Sources of Military Doctrine: France, Britain, and Germany Between the World Wars* (Ithaca, NY: Cornell University Press, 1984), 227.

fought. They include the *de jure* of the day, the related *de facto*, and the technology of the day. *De jure*, meaning concerning law, includes formalized and codified doctrine, command structures, laws, and orders for a given era.[4] *De jure* dictates how the military services are expected to operate. It dictates the expectations and command relationships, and establishes boundaries of operations for commanders in the field. *De facto*, meaning concerning fact, identifies the realities of how codified practices are actually executed.[5] It includes institutional biases, belief systems, and the military communities' values. Finally, technology has played a role. It has facilitated coordination through steadily advancing means of communication, as well as offering alternative means to execute missions.

This chapter documents the evolution in the degree of unity of effort that has occurred within the US military services since the US Civil War. Drawing on historical case studies, the chapter shows that changes within one or more of the three principles tended to drive changes in the degree of unity of effort that dictated the ease of planning and executing inter-service operations. As depicted in Figure 1, technology is influenced by the contemporary *de jure* and *de facto*. The result is a degree of unity of effort displayed among the military practitioners of the era. The level of unity of effort attained directly translates into the ability of the military practitioners of the time to plan and

[4] "De Jure is the Latin of the term 'of the law.' It describes a condition that is legitimate 'as a matter of law' or 'according to law.' The term has come to be described as a total adherence of the law. For example, a de jure government is one which has been created in respect of constitutional law and is in all ways legitimate. De jure is generally used in contrast to de facto. De jure connotes 'as a matter of law,' whereas de facto connotes 'as a matter of practice not founded upon law.'" USLegal.com, "Definitions," http://definitions.uslegal.com/d/de-jure/ (accessed 27 December 2012).

[5] "De Facto is a legal term meaning 'in fact' or 'in reality', which is used to qualify many legal terms. For example, de fact segregation refers to segregation which occurs without any official action by government officials, but results from social, psycholological, or economic conditions. De facto may mean existing in fact whether with lawful authority or not." USLegal.com, "Definitions," http://definitions.uslegal.com/d/de-facto/ (accessed 27 December 2012).

execute inter-service operations. Beginning with the Civil War, the general characterization of the prevalent paradigm was that of separation. WW II provided an example of the first shift to perceptions that inter-service operations should be deconflicted in nature. Operation Desert Storm was indicative of a third evolution, this time to accept the need for coordination in inter-service operations. Most recently OEF and OIF ushered in a new paradigm: synchronization.

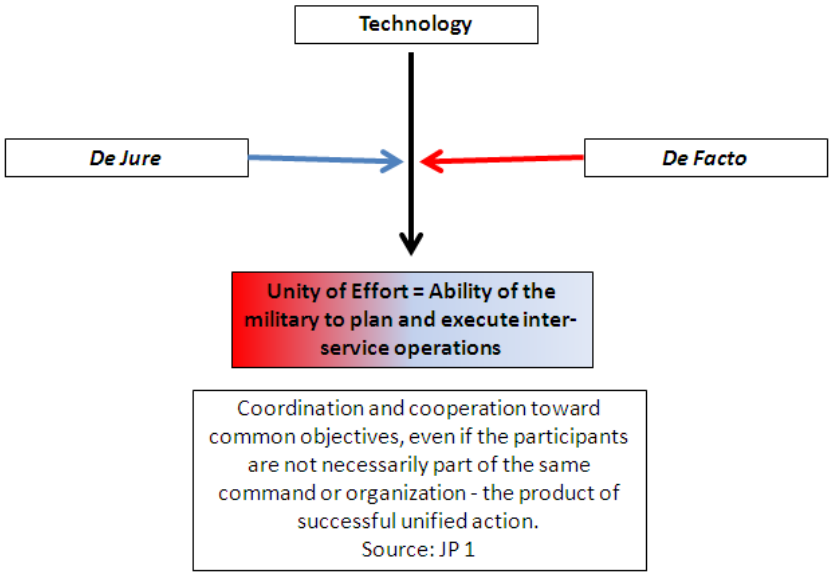

Figure 1: Elements Effecting Inter-Service Operation

Source: Author's Concept

Although it is possible to dig deep enough into each of these periods of time to examples of other paradigms, viewed in totality, inter-service operations conducted during these periods are most representative of the mindsets indicated above. As many strategic theorists have stated, it is important to understand the *why* of history, not just the what. The why, in this case, existed within the interaction of the *de jure*, *de facto*, and technology, which resulted in varying degrees of unity of effort that in turn dictated the

effectiveness of inter-service efforts. In understanding how perceptions have evolved, military leaders today can better understand the current and future environment they face.

US Civil War – Inter-Service Culture of Separation

"Although [General McClellan] could, and did, direct the movements of his own army and, by skillful maneuver, the responses of the enemy, he could control neither the actions of his government nor those of its Navy."[6] This statement by author and historian Rowena Reed speaks volumes about the attitude of US Civil War commanders toward inter-service operations. Every principle critical to effective inter-service operations--de jure, de facto, and the technology of the day--were stacked against cooperation between the Army and Navy. Given this fact, it becomes understandable how, of the over 10,000 battles fought during the Civil War, very few involved inter-service cooperation and even fewer of those were successful.[7] The predominant mindset of separation overshadowed the planning and execution of inter-service operations during the American Civil War.

Historian Craig Symonds placed a majority of the blame for this paucity of inter-service operations on the lack of effective *de jure* when he stated, "There was virtually no protocol for effecting the efficient cooperation of the army and navy forces."[8] The success of any inter-service operation was due more to the good graces of the commanders involved than any written doctrine or policy.[9]

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[6] Rowena Reed, *Combined Operations in the Civil War* (Annapolis, MD: Naval Institute Press, 1978), 386.
[7] As many as 10,500 battles took place during the Civil War. Weider History Group, "Major Battles of the American Civil War," *Civil War Battles*, http://www.historynet.com/civil-war-battles (accessed 17 October 2012). An excess of 10,000 engagements took place during the Civil War. "Civil War Statistics," *Civil War Statistics*, http://www.phil.muni.cz/~vndrzl/amstudies/civilwar_stats.htm (accessed 17 October 2012).
[8] Craig L. Symonds, *Union Combined Operations in the Civil War*, The North's Civil War (New York: Fordham University Press, 2010), 1.
[9] Symonds, *Union Combined*, 137. See also Reed, *Combined Operations*, 82.

Three documents provided the foundation of training for Army officers. The first was the Constitution of the United States. It specified that the military command structure of the army and navy combined at one point, the office of the President of the United States.[10] There was no formal position below that to resolve disagreements between the two services. The other two documents served as tactics manuals for commanders on both sides of the war. The first was *Hardee's Rifle and Light Infantry Tactics,* which was a manual that specified infantry drill maneuvers of the day.[11] It made no mention of means to coordinate infantry maneuvers with the rest of the combined arms tirade referenced by the second tactics manual, Jomini's *The Art of War*.[12] Jomini focused on the army general and employment of the three elements of combined arms: infantry, artillery, and cavalry.[13] It is, therefore, telling that he dedicated less than four pages to a discussion of army and naval coordination in a nearly 300-page manuscript. In the end, Jomini's assessment was that although possible, descents, or amphibious landings, were extremely hazardous and offered limited potential for victory to the general executing an amphibious landing.[14] These three documents were instrumental in building the *de jure* which was not only vague, but often countered the promotion of inter-service operations. This resulted in ideas of separation between the services.

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[10] Symonds, *Union Combined,* 2.
[11] William Joseph Hardee, *Hardee's Rifle and Light Infantry Tactics, For the Instruction, Exercise and Manoeuvers of Riflemen and Light Infantry Including Schooling of the Soldier and School of the Company* (Memphis, TN: E.G. Kirk & Co., 1861).
[12] Antoine-Henri Jomini, *The Art of War*, trans. G.H. Mendell and W.P. Craighill (Mineola, NY: Dover Publications, 2007).
[13] Antoine-Henri Jomini, "Sketch of the Principal Maritime Expeditions," in *The Art of War* (Mineola, NY: Dover Publications, 2007), 327–353. Here, Jomini does provide a lineage of major naval operations in this pamphlet but never links naval effects to land operations.
[14] Jomini, *The Art of War*, 226–230. In this section, Jomini identified the impracticality at the time of being able to transport the large number of soldiers needed to make an amphibious landing effective. He concluded that the number that can be transported over water was too small to accomplish anything once they are landed. In the end, the coordination required did not justify the expected effects gained.

The common *de facto* of the time was that an Army officer should never answer to a Navy officer and vice versa. As Symonds identified, each service was highly "jealous of its independence."[15] Lacking specific instructions that mandated cooperation, "Army and Navy leaders were unwilling to subordinate their own service goals" to those of the Union or the other service.[16] Typical orders of the day often implied cooperation, but would then state: "No officer of the Army of Navy, whatever may be his rank, can assume any direct command, independent of consent, over an officer of the other service."[17] Many available examples of orders of the time are exceedingly specific on military objectives and tasks to accomplish, but lack any discussion of supporting and supported relationship or overall task force command authority.[18] Beyond personal

[15] Symonds, *Union Combined*, 2.
[16] Symonds, *Union Combined*, 2.
[17] Symonds, *Union Combined*, 7.
[18] John Gilchrist Barrett, *The Civil War in North Carolina* (Chapel Hill, NC: University of North Carolina Press, 1963), 68–69. Barrett presents a set of orders issued to Gen Burnside prior to his departure for North Carolina in the fall of 1861: "In accordance with verbal instructions heretofore given you, you will, after uniting with Flag-officer Goldsborough at Fort Monroe, proceed under his convoy to Hatteras inlet, where you will, in connection with him, take the most prompt measures for crossing the fleet over the Bulkhead into the waters of the sound: Under the accompanying general order constituting the Department of North Carolina, you will assume command of the garrison at Hatteras inlet, and make such dispositions in regard to that place as your ulterior operations may render necessary, always being careful to provide for the safety of that very important station in any contingency. Your first point of attack will be Roanoke Island and its dependencies. It is presumed that the navy can reduce the batteries on the marshes and , over the landing of your troops on. The main island, by which, in connection with a rapid movement of the gunboats to the northern extremity as soon as the marsh-battery is reduced, it may be hoped to capture the entire garrison of the place. Having occupied the island and its dependencies, you will at once proceed to the erection of the batteries and defences necessary to hold the position with a small force. Should the flag-officer require any assistance in seizing or holding the debouches of the canal from Norfolk, you will please afford it to him. The commodore and yourself having completed your arrangements in regard to Roanoke Island and the waters north of it, you will please at once make a descent on New Berne, having gained possession of which and the railroad passing through it, you will at once throw a sufficient force upon Beaufort and take the steps necessary to reduce Fort Macon and open I that port. When you seize New Berne you will endeavor to seize the railroad as far west as Goldsborough, should circumstances favor such a movement. The temper of the people, the rebel force at hand, etc., will go far towards determining the question as to how far west the railroad can be safely occupied and held. Should circumstances render it advisable to seize and hold Raleigh, the main north and south line of railroad passing through Goldsborough should be so effectually destroyed for considerable distances north and south of that point as to render it impossible for the rebels to use it to your disadvantage. A great point would be gained, in any event, by the effectual destruction of the Wilmington and Weldon Railroad. I would advise great caution in moving so far into the interior as upon Raleigh. Having accomplished the objects mentioned, the next point of interest would probably be Wilmington, the reduction of which may require that additional means shall

disdain for subordination to another service, many commanders actually had orders that enabled them to refuse to cooperate.[19] However, there were moments of successful inter-service operations in spite of the *de jure* and *de facto*.

One of the few success stories highlighted by Symonds is that of the Battle of Hampton Roads, Virginia, 1862. In this case, Admiral Goldsborough successfully engaged Confederate shore batteries with his ships, which facilitated the landing of General Wool's forces and the capture of Norfolk.[20] However, neither of these commanders wanted anything to do with this battle or with each other. Symonds identified that the primary reason these leaders took any action whatsoever was because President Lincoln himself was aboard ship with Goldsborough and directed him to initiate the attack. Furthermore, Salmon Chase, Secretary of the Treasury, uncovered the suitable landing point for General Wool. Both Secretary Chase and President Lincoln participated in the landing, urging the commanders forward while both preferred inaction.[21] It is clear that without this very high-level and anomalous intervention, this rare example of a *success* would likely not have occurred. The lack of codified policies that governed inter-service operations left individual commanders to determine if cooperation was worth the effort or not.

In addition to the *de jure* and *de facto*, the technology of the day made inter-service operations difficult. Ground commanders in the Civil War had limited means—namely, rifles and cannons--to accomplish the missions they were given. Once inland,

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be afforded you. I would urge great caution in regard to proclamations. In no case would I go beyond a moderate joint proclamation with the naval commander, which should say as little as possible about politics or the negro; merely state that the true issue for which we are fighting is the preservation of the Union and upholding the laws of the general government, and stating that all who conduct themselves properly will, as far as possible, be protected in their persons and property" (pages 68-69).

[19] Symonds, *Union Combined,* 7.

[20] Symonds, *Union Combined,* 2-4.

[21] Symonds, *Union Combined,* 2-4.

there was little the Navy could do to help; and while at sea, the Army provided no fighting capability as its men and supplies were stored in the hold of ships. In addition, the military leaders lacked an understanding of the tactics and operational considerations of the other service. This created significant friction that was difficult to overcome.[22] Compounding the problem was the limited ability of the army and navy commanders to communicate once separated. Reed identified the lack of early planning for contingencies as paramount in the many failed inter-service operations.[23] This was because, unable to make an audible once the battle had begun, unexpected contingencies typically ruined any attempt to cooperate. In the end, the technology of the day did little to bridge the separation gap between the two services.

As demonstrated, the three foundational principles of inter-service operations worked against Civil War commanders. The *de jure* of the day was not only vague but, where clear, ran counter to effective cooperation. Army and Navy commanders were directed to stay out of each other's way rather than to create supporting operations. Because cooperation was not mandated, the decision rested with the officers on the field, which, when held up against "interservice rivalry and cultural animosity" of the times, "egos and zealous guardianship of prerogatives of rank" more often won out.[24] Ultimately, exceedingly weak *de jure*, facilitated an overwhelmingly negative *de facto*. The lack of technological means to augment the rifle and cannon additionally left commanders few, if any, options for inter-service operations. These factors produced a

[22] Symonds, *Union Combined,* 137.
[23] Reed, *Combined Operations,* 385. Reed states that: "This study shows that, while perfection may be unattainable in any human activity, the closer an operation approached the ideal, the fewer 'accidents' happened. The key to maintaining control of the situation was the extent to which a movement was thought out in advance and careful attention given to detailed planning, organization, and preparation. Failure to anticipate and provide for contingencies was characteristic of most Civil War combined operations" (page 385).
[24] Symonds, *Union Combined,* 137.

negligible degree of unity of effort. This, in turn, drove the Army and Navy to fight two separate wars. This mindset of separation held fast until just prior to World War II, when changes in technology drove changes in the paradigm of the military community.

World War II - Inter-Service Culture of Deconfliction

World War I saw the combat debut of aircraft and thus the beginning of a new era of inter-service operations. The Battle of Saint-Mihiel, toward the end of the war, was indicative of the concepts of inter-service operations that were gaining traction.[25] General William "Billy" Mitchell led the air armada that prepared the front for the Army's ground offensive.[26] Although Mitchell was successful in coordinating effects of airpower with a land scheme of maneuver, Saint-Mihiel was little more than a blip on the radar of advances in inter-service operations. It was not until the inter-war years that military theorists began to truly understand what Mitchell had accomplished, and the potential impact it had on future military operations.

Between the world wars, several prominent airpower and military theorists published ideas on what the new technology of aviation meant to warfare in general. The result was entrenchment by the Army and Navy, and little changed officially within the *de jure* of the services leading into the WWII campaigns.[27] However, the theorists did generate new ideas and a conflict of paradigms ensued. The technology changes

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[25] Alfred F Hurley, *Billy Mitchell: Crusader for Airpower* (Bloomington, IN: Indiana University Press, 1975), 146.

[26] Hurley, *Billy Mitchell*, 35. "On its aerial side, the battle of St.-Mihiel was most significant as the scene of the greatest concentration of aircraft during the war. Some 1,481 planes, most of them borrowed from the British, French, and Italians, were to support the American ground forces. Mitchell was, in a loose sense, the commander of the force. In coordinating the aerial effort, he had the assistance of a staff that included representatives of the various Allied participants. Significantly, he could count on the support of a French Air Division, some 500 bombers and fighters concentrated in a new version of aviation de combat" (page 35).

[27] Hurley, *Billy Mitchell*, 97–98. After being reduced in rank to Colonel, Mitchell was brought up on charges and court-marshaled by the War Department (page 101).

facilitated more rapid coordination as well as a means to accomplish missions that were not previously available. As the Army Air Corps pursued strategic bombing the Marine Corps experimented with amphibious warfare.[28] The end result was agreement that inter-service cooperation led to gains in operational advantages over an enemy; however, the means to capitalize on these capabilities remained contested. As a result, the predominant attitude of the commanders during WWII could best be described as one of deconfliction.

Mitchell was probably the most vocal advocate for the capabilities of US airpower. He not only saw aircraft as a means to bridge the gap between Army and Navy operations, but as able to replace some of them.[29] Mitchell saw utility in coordinating with the Army and Navy; someone needed to guard the airbases, and aircraft at the time could only fly a few hundred miles out to sea.[30] In the end Mitchell, like Italian General Giulio Douhet before him, promoted the idea that airpower could bring wars to termination more effectively, rapidly, and with less overall loss of life.[31] Counter to these

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[28] Timothy Moy, *War Machines: Transforming Technologies in the U.S. Military, 1920-1940*, Texas A & M University Military History Series 71 (College Station, TX: Texas A & M University Press, 2001). By 1934, the USMC had a proven tactics manual that it began to distribute throughout the Corps. The *Tentative Manual for Landing Operations* codified six primary tenets of amphibious operations: 1) unity of command under the supreme authority of the senior naval officer during initial phases of the landing, 2) use of naval gunfire to support the landing craft during their trip to shore, 3) a shift to aerial support once the Marines were ashore to minimize fratricide, 4) ship-to-shore movement in a tactical combat formation rather than a ferrying operations, 5) securing large landing zones to allow for maneuver operations, and 6) well-organized logistics to ensure ready access to critical supplies during the operation (pages 136-137).

[29] William Mitchell, *Winged Defense the Development and Possibilities of Modern Air Power–Economic and Military* (Tuscaloosa, AL: University of Alabama Press, 2009), 31.

[30] Mitchell, *Winged Defense*, 109-110.

[31] Mitchell, *Winged Defense*, 134-135. What appears to be Gen Mitchell's greatest transgression against the Army and Navy was not his recommendations that they become subordinate to an independent Air Force. Rather, the angst was due to Gen Mitchell's desire to redistribute the funds available to the military (134-145). Mitchell further states: "Air forces must be designed primarily to attain victory in the air against a hostile air force and then to destroy enemy establishments, either on the land or on the water. Airpower should have an entirely separate budget from the Army and Navy," (page 221). See also: Giulio Douhet et al., *The Command of the Air* (Tuscaloosa, AL: University of Alabama Press, 2009), 98. Douhet argues, "But an Independent Air Force which meets both conditions [1) capable of winning command of the air, 2) capable of exploiting that gain by crushing the material and moral resistance of the enemy],

ideas were those of theorists like J. C. Slessor and Marshal Tukhachevskii, who promoted concepts of interdependence of the services.[32] They recognized that airpower had a unique role to play – securing the skies. However, they believed that that role should be integrated with the efforts of the other services toward a larger common objective.[33] What resulted was informal doctrine that struggled to effectively address the new capabilities. Few changes were made to the *de jure*, which left the commanders in the field to decide on the argument that resonated with them. Moreover, weak *de jure* left a conflicted *de facto*. On one hand, airpower remained separated from the other services for strategic attack missions. On the other, some influential Army Air Corps commanders, like General Joseph Quesada and General George Kenney, found ways to integrate the capabilities of airpower to gain greater advantages over the enemy.[34]

Quesada and Kenney exemplified airmen on one side of the *de facto* argument. They understood the abilities of airpower, but also understood where those capabilities fit

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essential and integral, decides the issue of the war without regard to any other circumstances whatever, (page 98).

[32] John Cotesworth Slessor, *Air Power and Armies* (Tuscaloosa, AL: University of Alabama Press, 2009), 2. Slessor states: "In a land campaign the primary objectives – that is to say those against which action will lead most directly to a decision – will always be the enemy land forces, their communications and system of supply…a land campaign must be taken to mean a campaign, or a stage in a campaign, of which the primary object for the time being is the defeat of an enemy army in the field," (page 2).

[33] Slessor, *Air Power and Armies*. Slessor saw an air force's first priority as that of gaining and maintaining air superiority, however once that had been accomplished, he foresaw three other priorities based on the phase of the land campaign. Slessor also states: "Thus fighting troops are the primary objective during actual battle periods…Attack on production assumes the first importance during what the Field Service Regulations describe as 'periods of comparative inactivity' on the ground. And midway between the two, supply in the field will probably be the most suitable objective during periods of preparation for battle on the ground…"(page 80). See also, Richard E Simpkin and John Erickson, *Deep Battle: The Brainchild of Marshal Tukhachevskii* (Washington, DC: Brassey's Defence, 1987). Tukhachevskii argues for the need to continue to search for means to bypass the frontline of troops and weaken the enemy from behind. This effort would enable the offense to strike deeper into the enemy's territory rather than be continual crash against fortified front lines. Tukhachevskii found great value in employing airpower to strike command centers, weapons depots, and reserve forces (pages 37-40).

[34] For Gen Quesada see Thomas Alexander Hughes, *Over Lord: General Pete Quesada and the Triumph of Tactical Air Power in World War II* (New York: Free Press, 1995). For Gen Kenney see Thomas E Griffith, *Macarthur's Airman: General George C. Kenney and the War in the Southwest Pacific* (Lawrence, KS: University Press of Kansas, 1998).

within the larger picture. They turned their backs on the formal doctrine of the day and rather than fighting campaigns separate from those of the Army, got close to their Army counter parts to better support the land component's operations.[35] However, these men were more the exception than the rule.

The concerns of General Carl Spaatz and General Henry Arnold demonstrated the presiding *de facto* disdain for giving up control of their assets. Specifically, these Army Air Force commanders wanted to prevent strategic bombers like the B-17 and B-29 from being employed in tactical missions. Spaatz complained multiple times about strategic bombers being used to augment Army artillery.[36] Arnold, concerned that General Douglas MacArthur, Admiral Chester Nimitz, or General Joseph Stillwell would try to take control of the new B-29s in the Pacific, named himself the commander of Twelfth Air Force.[37] In doing so, Arnold prevented the capabilities of the B-29 from being distributed to the individual theater commanders, keeping it focused on strategic applications. Similar to the condition during the Civil War, the *de facto* of the times,

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[35] Griffith, *Macarthur's Airman*. xiii. Griffith identified Gen Kenney's "strong belief in the unique contribution of airpower to military operations," the most important being the elimination of the "enemy's ability to interfere with friendly operations." General Kenney saw the opportunity for airpower to set the stage for more effective land operations by interdicting fielded forces behind the front lines (page xiii). See also, Hughes, *Over Lord*, 63. Planning exercises while in school led Quesada to conclude that "future war will require all sorts of arrangements between the air and the ground, and the two will have to work closer than a lot of people think or want," (page 63). Hughes further argues that during the build up to Operation Husky, Quesada tied costal defense to the protection of Allied convoys operating within the Mediterranean. Quesada realized that the success of the overall operation relied on the continued flow of supplies, and airpower was the primary means to protect that line of communication (page 98). After the Allies invaded the continent, Quesada was responsible for providing all of the tactical air support to General Bradley, tactics that no one had previously codified (page 18).

[36] Richard G. Davis, *Carl A. Spaatz and the Air War in Europe* (Washington, DC: Center for Air Force History, 1993), 424.

[37] Herman S Wolk, *Cataclysm: General Hap Arnold and the Defeat of Japan* (Denton, TX: University of North Texas Press, 2010), 91. "According to Hansell, these theater or 'field' commanders – Nimitz, MacArthur, Stillwell – were very powerful: 'Each wanted to apply the B-29s to his own strategic theater purposes, and each resented any incursion into his area of control,"(page 91). Wolk also stated "A similar organization had been created in the European theater, the US Strategic Air Forces in Europe (USSTAF), headed by Spaatz…"(page 93). Wolk finally argued that in response to these challenges, General Arnold named himself the theater commander for strategic Air Forces keeping the B-29s focused on their intended mission (page 96).

which eschewed the principles of service interdependence, greatly impeded the potential for inter-service operations.

Historian Thomas Griffith noted that the US Chiefs of Staff realized it would be difficult to get Nimitz and MacArthur to cooperate. Instead of forcing the issue, they gave each commander his own theater of operation.[38] While this decision forced Japan to divide her capabilities and ultimately spelled Japan's downfall, it was indicative of the resident mindset of the commanders that drove the *de facto* of the day. One difference between WWII and the Civil War was that commanders in WWII had the ideas of military theorists from the inter-war years to base their decisions on. Although many recognized that inter-service cooperation gained advantages, the process of establishing an air service created great rifts between all the services and led to attitudes of deconfliction.

Finally, technology showed the greatest change and truly initiated this phase of evolution. Firstly, the advent of radio enabled commanders to coordinate changes to plans in the heat of battle. Rather than having to rely on covering all the contingencies during preplanning efforts, unforeseen challenges were more easily overcome. Secondly, aviation provided means to accomplish the same missions through different ways. Airpower struck critical enemy positions that were out of the reach of artillery, it could strike ships well outside the range of surface guns, it could provide air cover as forces moved to the attack, and it could quickly resupply or maneuver force for an attack.[39] Airpower destabilized the balance between *de jure*, *de facto*, and technology in that it offered new options to commanders. However, the other two principles had not yet

[38] Griffith, *MacArthur's Airman*, 49.
[39] Mitchell, *Winged Defense*, 101-102.

caught up and remained out of balance. This resulted in commanders that saw advantages to inter-service operations, but were unsure of exactly how to make them happen.

WWII saw a transition in the degree of unity of effort achieved to one of deconfliction. This generated a new phase in the evolution of inter-service operations where the combination of capabilities became more common because of technological advances, but still highly dependent upon the attitudes of individual commanders. These concepts held firm through Vietnam where the Air Force and Navy deconflicted air routes and mission areas for air operations. It finally took General William Westmoreland, Commander US forces in the Vietnam War from 1964-1968, to threaten to resign, to gain approval for a single air commander to support Operation Niagara.[40] Similar to the Civil War, the commanders through Vietnam continued to ask for a command structure that identified a single officer with the authority to direct domain-specific capabilities.[41] It would take another decade and a major operational failure for the desired changes to finally take place.

[40] James Kitfield, *Prodigal Soldiers, How the Generation of Officers Born of Vietnam Revolutionized the Amercian Style of War*, Brassey's paperback ed, An AUSA Institute of Land Warfare Book (Washington, DC: Brassey's, 1997), 358. Operation Niagara was the air support directed at relieving the besieged Marines at Khe Sanh. Kitfield identifies that the Army Chief of Staff and Marine Corps commandant were fearful of establishing a new precedent whereby they would forever lose control over their air assets. Once the operation was complete, the services returned to the prior status quo and continued arguing over targets and mission priorities (page 358). See also Mark Clodfelter, *The Limits of Air Power: The American Bombing of North Vietnam* (Lincoln, NE: University of Nebraska Press, 2006), 164–165. Flight operations during Linebacker were continually hampered by the desire for the Navy and Air Force to remain independent of each other during Vietnam (pages 164-165). See also Stephen P Randolph, *Powerful and Brutal Weapons: Nixon, Kissinger, and the Easter Offensive* (Cambridge, MA: Harvard University Press, 2007), 192.

[41] Wolk, *Cataclysm*, 91.

Operation Desert Storm – Inter-Service Culture of Cooperation

Figure 2: Remains of Aircraft from Operation Eagle Claw, 1980

Source: WGBH Educational Foundation, "The Iranian Hostage Crisis," http://www.pbs.org/wgbh/americanexperience/features/general-article/carter-hostage-crisis/ (accessed 19 November 2012). And Air & Space Power Journal, "Operation Eagle Claw: The Iran Hostage Rescue Mission," http://www.airpower.maxwell.af.mil/apjinternational/apj-s/2006/3tri06/kampseng.html (accessed 19 November 2012).

Called the "biggest SNAFU you've ever seen," Operation Eagle Claw in Iran, 1980, was a significant impetuous for the third evolution of concepts of inter-service operations.[42] Historian James Kitfield included *Mayaguez* (1975), *Pueblo* (1968), and Beirut bombing (1983) in his list of black eyes that occurred when the services attempted to integrate.[43] "The greatest challenge was there was never a single individual with overall command over these Task Forces. Desert One was the worst."[44] The complete failure of Operation Eagle Claw and the loss of several aircraft and the lives of eight service members drove Congress to take action.[45] In an attempt to break the chain of

[42] Robert McCarter (CSM USA, USSOCOM), interview by the author, 13 January 2013.
[43] Kitfield, *Prodigal Soldiers,* 278.
[44] CSM McCarter, interview. "Desert One" was the code name used for the rendezvous point located within Iran.
[45] The Honorable Isaac N. Skelton IV, "Remarks at the Ceremonial Presentation of the Doctor of Law, Honoris Cansa" (address at Maxwell AFB, AL, 05 November 2012). Congressman Skelton identified Operation Eagle Claw as the final indication that something had to change, the DOD could not continue to

military failures, Congress dictated new policy to the DOD in the form of the Goldwater-Nichols Act of 1986.[46] The change in *de jure* brought two of the three principles of inter-service operations into relative balance; codified regulations finally reflected the realities of what had been technologically feasible for several years. However, the *de facto* of the military community lagged. The attitude of reluctant cooperation prevailed within the DOD as it entered Operation Desert Storm in 1991. Commanders had the technology and doctrine to facilitate highly effective Joint Operations, however, the mindset of the commanders had yet to shift.

The predominant *de jure* of the day, AirLand Battle and Maritime Strategy, were indicative of the way that concepts of inter-service operations had regressed. AirLand Battle, although touted as a joint venture between the Army and the Air Force, was in fact an Army doctrine that subordinated Air Force operations to a land campaign focused on defeating Soviet attacks in Eastern Europe.[47] Maritime Strategy, on the other hand, was the Navy's attempt to remain relevant by claiming it could take the fight to the Soviets from the ocean.[48] The two doctrines indicate the state of *de facto*; the degree to which the

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operate effectively under the doctrine it currently referenced. See also Air & Space Power Journal, "Operation Eagle Claw, The Iran Hostage Rescue Mission," http://www.airpower.maxwell.af.mil/apjinternational/apj-s/2006/3tri06/kampseng.html (accessed 20 November 2012).

[46] Skelton "Ceremonial Presentation."

[47] Edward C Mann and Air University (US). Press, *Thunder and Lightning: Desert Storm and the Airpower Debates* (Maxwell AFB, AL: Air University Press, 1995), 20-21. "According to the then-current version of FM 100-5, *Operations*, airpower is an integrated but subordinate element of the AirLand Team…air operations are depicted as fire support for ground maneuver" (pages 20-21). Mann further stated "The precepts under which [the Tactical Air Force's] perceived mission would be executed were dominated by AirLand Battle – the Army's doctrine for corps-level war fighting. This lesser vision of airpower proved functional in coordinating air and land forces at and below corps level, but above that point – where some of air forces' most powerful applications lie – AirLand Battle offered no answers," (page 166). See also, Benjamin S Lambeth, *The Transformation of American Air Power: A RAND Research Study* (Ithaca, NY: Cornell University Press, 2000), 88. "As an Air Force commentator observed at the time, [the USAF] did 'not acknowledge AirLand Battle as the sole governing principle for joint training and exercises,'"(page 88). See also, John Andreas Olsen, *John Warden and the Renaissance of American Air Power* (Washington, DC: Potomac Books, 2007), 65.

[48] Kitfield, *Prodigal Soldiers,* 287.

services had retrenched within parochial walls in a continuous attempt to gain higher percentages of the DOD budget.[49] It was also indicative that the system was broken.

Geographic Commanders lacked the legal authority to compel Component Commanders to take specific actions. Previously, the best a Geographic Commander could do was to request support and hope that the specific service Chief of Staff agreed that the request was worth supporting.[50] In this way, the Chiefs of Staff held the power, which made them antagonistic toward the changes that Congress had in mind.[51] However, Congress realized the need for changes and moved forward. In the end, the new *de jure*, in the form of the Goldwater-Nichols Act of 1986, restructured the Joint Chiefs of Staff, made serving in joint billets desirable to staff officers, and most important to this argument, strengthened the authority of Combatant Commanders (CCDRs) of Unified Commands.[52] The Goldwater-Nichols Act finally gave CCDRs the legal standing to command their theaters of operation. General H. Norman Schwarzkopf and his component commanders, General Chuck Horner, General Walt Boomer, and Admiral Hank Mauz, had the unenviable task of testing the new doctrine in the first large scale operation in Desert Storm, 1991.

Congress attempted to reform *de facto* attitudes through legislative changes to the *de jure*. However, similar to the attitudes seen during the Civil War and WWII, the *de facto* of average service member in Desert Storm clung to ingrained parochialism.

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[49] CSM McCarter, interview. "At the time, the services justified their existence based upon their accomplishments."

[50] Kitfield, *Prodigal Soldiers*, 358. Kitfield identified how Schwarzkopf's predecessor had "to practically plead for service support to conduct the Earnest Will tanker reflagging operation." The issue was only resolved when he finally approached the secretary of defense (page 358).

[51] Skelton, "Ceremonial Presentation," address.

[52] Kitfield, *Prodigal Soldier*, 292, 297. Consolidation of command authority over Component Commands within the position of the CCDRs enabled creation of the much-needed TRANSCOM (page 292). Until the passing of Goldwater-Nichols, the Component Commands were able to drag their feet in resistance to subordinating their mobility capabilities (page 297).

However, this time the DOD had a significant advantage. The service members that ran counter to the typical thinking were the ones that mattered; the CCDR and his Component Commanders.[53] Kitfield and other historians have observed numerous occasions in which all the commanders put aside jockeying for budget gains to work together toward common mission objectives.[54] In one instance, Boomer chastised a subordinate officer when he complained about the Air Force trying to "screw" the Marines out of their airpower.[55] Boomer knew he was out in front of the common views of the Marine Corps and its Commandant, but believed that he could trust Horner and that the Air Force would not leave his Marines without the air support they needed.[56]

Coordination between the Air Force and Navy did not progress as smoothly. The attitudes of parochialism and decision making based on impressing the budget gods continued to loom in the shadows of Desert Storm. Initially, Mauz suggested that he and Horner divide the Iraqi airspace into "separate sectors to be patrolled independently by Air Force and Navy aircraft."[57] In a similar instance, Boomer found himself trying to justify sending 32,000 Marines against strengthened Iraqi defenses expecting an

[53] CSM McCarter, interview. See also, Kitfield, *Prodigal Soldier*, 358. Horner and Boomer rapidly came to the agreement that they had to put aside their service biases and work together for Desert Storm to be a success (page 358).
[54] Kitfield, *Prodigal Soldier*, 358. See also, Michael R. Gordon, *The Generals' War: The Inside Story of the Conflict in the Gulf*, (Boston, MA: Little, Brown, 1995), 133–135. General Powell had significant concerns about airpower's ability to accomplish the objectives as stated in the plan briefed by General Glosson on 10 October 1990. Schwarzkopf was familiar and very comfortable with the plan. He supported Glosson in not changing the plan as briefed for White House approval (pages 133-135). See also Olsen, *John Warden*, 179: Olsen captures General Horner's concerns that not enough was being done through the air to counter Iraq's ground forces (page 179).
[55] Kitfield, *Prodigal Soldier*, 360.
[56] Kitfield, *Prodigal Soldier*, 360. Kitfield identified the significant stress felt by both Horner and Boomer in their first meeting. Both were concerned to build the proper relationship that would enable effective operations (page 360).
[57] Kitfield, *Prodigal Soldier*, 361.

amphibious landing in Kuwait.[58] However, this time, the commanders were able to draw on their time in the rice paddies of South Vietnam or in cramped cockpits flying over Vietnam and those memories and lives lost triggered a significant change in the mindset of the commanders.

Horner violently attempted to drive the *de facto* out of entrenchment and toward cooperation. He blew up at Mauz saying he would resign before he would agree to separate airspace.[59] Similarly, Boomer's commanders rallied around him, supporting their men against the Commandant of the Marine Corps. Seeing this, Boomer promised that "[t]here's no way we're going to conduct an amphibious assault just to prove to the world we can do it."[60] Both Horner and Boomer even found themselves countering their representatives within the Joint Chiefs of Staff. After a visit to see what *his men* had planned, Chief of Staff of the Air Force General Dugan made several comments to the press about *his* plan, both usurping Horner's, Schwarzkopf's, and General Colin Powell's authority and divulging a secret plan of action. Days later Dugan was relieved of duty.[61] Likewise, after two visits to view his Marines in the field, General Gray, Commandant of the Marine Corps, wanted to visit a third time. Concerned that Gray would complicate a delicate situation, Boomer approached his boss (Schwarzkopf) for assistance. A day later, Gray's visit had been cancelled.[62] These two specific moments indicate that a significant shift had occurred within both the *de jure* and *de facto*.

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[58] Kitfield, *Prodigal Soldier*, 372. In the end, the Marine amphibious assault served a critical strategic role by fixing a significant portion of the Iraqi ground forces to prevent the landings (page 372). Additionally, Dannie Tennimon (Lt Col USA Retired, Director of the Deep Strike Cell in VII Corps J2 during Operation Desert Shield and Operation Desert Storm), interview by the author, 15 Nov 2012: stated that very few realized the strategic significance of the Marine assault until after the fact.
[59] Kitfield, *Prodigal Soldier*, 361.
[60] Kitfield, *Prodigal Soldier*, 373.
[61] Kitfield, *Prodigal Soldier*, 364. See also Olsen, *John Warden*, 196-199.
[62] Kitfield, *Prodigal Soldier*, 373.

The legislated changes made to the *de jure* had granted authority to leaders that possessed and furthered a new *de facto*. That individual Component Commanders would rally together under a CCDR from a different service in defiance of institutional norms is profound. The attitudes of the commanders in the field made the new doctrine work; the technology made it all feasible.

New computer and communication systems facilitated the massive coordination required to build and execute an operation as complicated as Desert Storm. The daily Air Tasking Order (ATO) alone contained hundreds of sorties a day.[63] Furthermore, advances in cruise missiles, stealth technology, and precision weapons made it possible to meet the Coalition's objective of degrading the Iraqi land forces by 50 percent.[64] Although new technology did facilitate significant cooperation, some technology required work-arounds. The years of separation generated incompatible communication systems. The ATO had to be flown out to the Navy because its systems were not compatible with those of the Air Force.[65]

Superb cooperation occurred between the Army and Air Force with regard to the employment of the Joint Surveillance Target Attack Radar System (JSTARS). VII Corps, tasked with striking the heart of the Iraqi defenses, contained a liaison office with

[63] John Andreas Olsen, *A History of Air Warfare* (Washington, DC: Potomac Books, 2010), 177. Olsen notes that more than 1,800 type of aircraft, flew 110,000 sorties, dropping more than 90,000 tons of ordnance in the forty-two day operation (page 177). Additionally, 260 strikes were flown against leadership facilities while another 580 were flown against command and control sites (page 188). In the first week 938 sorties were dedicated to interdiction to support the land campaign. The second week saw an increase to 2,796 sorties. Third week had 3,512, fourth week 3,972. The fifth week 4,048 and the final week had 3,807 sorties dedicated to attacking fielded Iraqi forces (page 194).
[64] Olsen, *A History of Air Warfare*, 193.
[65] Kitfield, *Prodigal Soldier*, 374.

the Air Force employed system.[66] As part of the VII Corps J2 Deep Attack Targets Cell, Lieutenant Colonel Dannie Tennimon spent many hours coordinating intelligence reports of destroyed bridges, tanks, radar, and artillery positions with the information provided by JSTARS and other assets to best direct Army Apache and artillery strikes.[67] At one point VII Corps J2 identified that a bridge over the Tigris that had reportedly been destroyed was still supporting traffic. This information enabled the Air Force to restrike the target to support the Army's requirements.[68]

Technology had finally advanced to the point that commanders in the field had other options to accomplish their objectives. Air force and naval air strikes were able to attrite Iraqi forces to facilitate a more effective land campaign. Similarly, the services were able to cross-queue and share intelligence and information that aided all parties in achieving unity of effort.

Historian John Olsen identified four possible reasons why the Coalition succeeded in Operation Desert Storm; three of them focus on the effects that airpower applied to the battlefield.[69] The fourth was that the ground campaign ultimately won the war.[70] Olsen, however, pointed to a different source of the success. "Operation Desert Storm," he stated, "vindicated the 'single manager' concept for the command and control of joint air operations."[71] Although Olsen focused on the history of airpower, it is simple to carry this thought further; Operation Desert Storm vindicated the ideas of Goldwater and

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[66] Lt Col Tennimon, interview. He selected targets and coordinated helicopter strikes against Iraqi radar and artillery installations, as well as Iraqi second echelon supply and defensive units, during the execution of the one-hundred hour ground offensive.
[67] Lt Col Tennimon, interview. Aside from JSTARS, the Deep Attack Cell coordinated intelligence received from Remotely Piloted Vehicles and various USAF reconnaissance aircraft.
[68] Lt Col Tennimon, interview.
[69] Olsen, *A History of Air Warfare,* 197-198.
[70] Olsen, *A History of Air Warfare,* 198.
[71] Olsen, *A History of Air Warfare,* 197.

Nichols and the empowered CCDR. The "vindicated single manager" was the Combatant Commander, who finally had the authority to direct cooperation of the components under his command.[72] Olsen further says it was the combination (cooperation) of the services toward a common objective that won the day.[73] Ultimately, success was found in achievement of a higher degree of unity of command, the result of a *de facto* that responded to changes in *de jure* and technology available.

OEF and OIF – Inter-Service Culture of Synchronization

With nearly a year having passed since the termination of the war in Iraq and close to a year until the ending of the Afghan War, lessons on how these campaigns were planned and executed are now coming to light. Although service institutionalism was on a significant rise in response to DOD budget cuts by the Clinton administration, there was a marked change in attitudes during the conflicts resulting in an overall display of synchronization.[74] The *de jure* established in 1986 remained unchanged at the core. However, there were some significant changes made to *de jure* to bring peripheral elements into alignment with central ideas of Joint Operations. Examination of the *de facto* element displays a noticeable degradation leading into Operation Anaconda, but rapidly recovers to surpass that seen in Desert Storm. Finally, it was changes in technology, specifically the addition of cyber and space-based operations, which drove the beginning of a new phase of evolution. Again, the three primary elements played against each other to influence the degree of unified effort attained.

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[72] CSM McCarter, interview.
[73] Olsen, *A History of Air Warfare*, 198.
[74] Jeffery Hukill (Lt Col USAF Retired, Chief of Joint and Multinational Doctrine Development Division, LeMay Center, Maxwell AFB, AL), interview by the author, 16 Nov 2012. Lt Col Hukill identified Operation Anaconda as one example within OEF where service institutionalism appears to have overcome prudent planning. Additionally, Dale Shoupe (Col USAF Retired, HAF/A9 Representative to the LeMay Center), interview by the author, 20 Nov 2012.

Tested during Operation Desert Storm and confirmed in Operation Deliberate Force (Bosnia, 1995) and Operation Allied Force (Serbia, 1999), the *de jure* had changed little by the start of operations in Afghanistan in 2001. The changes that did occur were indicative of services responding to the new Joint Doctrine through the development of operational concepts and tactics, techniques, and procedures (TTPs). These changes in practices were most often in response to observance of lessons learned from recent conflicts. Joint Publication (JP) 3-09.3, Kill Box operations, and the development of the Air Component Coordination Element (ACCE) serve as examples.

Originally written in 1995, JP 3-09.3 *Joint Tactics, Techniques, and Procedures for Close Air Support (CAS),* was rewritten in July 2009 to capture lessons learned since its original writing. Aside from renaming the document to simply *Close Air Support (CAS),* the 2009 version included consideration for unmanned aircraft, updated acronyms to include the Air Force Air Operations Center (AOC), redefined what constituted troops in contact, and incorporated consideration of inertial-aided munitions as well as many more.[75] Similarly, OIF/OEF saw extensive use of Kill Box operations to facilitate more flexible Close Air Support (CAS). As General Wallace, V Corps Commander, noted, "On a linear battlefield, fire support coordination lines, FSCLs, tend to make sense but not on the nonlinear battlefield. Kill Boxes that we opened and closed to allow the Army and Air Force to engage the enemy in the boxes worked well in this particular environment."[76] Attempts to employ traditional deconfliction using a FSCL proved challenging to say the least. In the end, the new Kill Box concept gave both land and air commanders the flexibility required in the combat environment. Lastly, in response to

[75] Joint Publication (JP) 3-09.3, *Close Air Support (CAS),* 2009, iii-iv.
[76] HQ USAF/A9L, *Enduring Lessons from OEF/OIF: Adapting to Evolving Combat Realities* (Washington, DC: Air Force Lessons Learned and Air Force Research Institute, 2012), 46.

the break down in component integration leading into Operation Anaconda, the Combined Forces Air Component Commander (CFACC) developed an element that could be his personal representative to the other Component Commander.[77] The ACCE was highly effective in getting airpower experts into the planning process of the other components.[78] Although these adjustments did not change the core elements of the *de jure*, they were modifications made by the services to bring their practices and operational concepts into more alignment with Joint Doctrine as a whole. Finally, that the DOD was able to rapidly dive into large-scale operations without any prior notice indicates that the *de jure* accomplished its intended purpose. When emotions were high, each service knew, based on codified policies and doctrine, exactly where they belonged in the building Joint Task Force without having to ask.[79] The *de jure* did somewhat mitigate the resurging parochialism that dictated the *de facto* of the day.

Bickering within the services in a never-ending effort to gain favor with the gods of the defense budget continued to plague the ability of the *de facto* to balance with the day's *de jure*. Although often latent, parochialism was rampant within all areas of the DOD in response to the dwindling defense budget. Following Desert Storm and Allied Force, the Air Force took great pride in highlighting how it had single-handedly won

[77] Shoupe, D., Col USAF Ret., HAF/A9 Representative to the LeMay Center, Interview on 20 November 2012 at the LeMay Center, Maxwell AFB, AL. Mr. Shoupe contends that the major failure of Operation Anaconda was the lack of including any airpower experts in the initial planning. The ACCE was a direct response to this lesson learned in OEF.

[78] Maj Gen Charles W. Lyon and Lt Col Andrew B. Stone, "Right-Sizing Airpower Command and Control for the Afghanistan Counterinsurgency," *Air & Space Power Journal*, Summer 2011, Senior Leader Perspective: 9.

[79] Benjamin Lambeth S., "Operations Enduring Freedom," in *A History of Air Warfare*, (Washington, DC: Potomac Books, 2010), 256–257. Lambeth noted that offensive operations did not begin until 7 October 2001. Although he implied this was a long month after the initial attacks on 11 September 2001, compared to the nearly six-month build up during Operation Desert Shield, one month to deploy, plan, and begin operations was relatively quick (pages 256-257).

those conflicts.[80] In another example, in 2001, Naval Historian Jeffery Barlow led a team that attempted to capture a "more balanced perspective of the 'revolt of the admirals.'"[81] However, the resulting book, written by a Navy historical committee, was decidedly biased toward the Navy's perspective of events, furthering the air of institutionalism already prevalent in the *de facto*.[82] Similarly, various other authors and historians highlight the rise in service institutionalism.[83] These attitudes were a significant contributor to what almost became a strategic disaster in OEF—Operation Anaconda.

Operation Anaconda was a partial victory snatched from the rapidly closing jaws of defeat. What began as a SOF operation into the Shah-i-Kot valley changed to become the only substantial conventional ground offensive during the initial phases of OEF.[84] Lambeth identified two factors that contributed to the near defeat, a lack of any other

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[80] John Andreas Olsen, "Operation Desert Storm, 1991," in *A History of Air Warfare*, (Washington, DC: Potomac Books, 2010), 198. Olsen placed a significant degree of responsibility for the victory of Desert Storm in the hands of airpower. He does eventually include the ground campaign, but is obviously biased toward the Air Force. The curriculum and lectures of Air Command and Staff College highlight Desert Storm and Allied Force as moments when airpower finally lived up to its promised capabilities of decisively wining wars (page 198). See also, Lambeth, *The Transformation of American Air Power*, 3. Lambeth quotes Air Vice Marshal Tony Mason, saying, "The Gulf war marked the apotheosis of twentieth-century airpower." Lambeth also quotes Col Dennis Drew that Desert Storm symbolized "the domination of airpower and a new paradigm of warfare," (page 3).

[81] Jeffrey G Barlow, *Revolt of the Admirals: The Fight for Naval Aviation 1945-1950* (Washington, DC: Government Reprint Press, 2001), xvii.

[82] Barlow, *Revolt of the Admirals*, xvii. Barlow concludes that the actions of multiple naval officers in the end were justifiable because they eventually got the Navy what it wanted; more money to build bigger carriers (page xvii).

[83] Conrad C. Crane, *American Airpower Strategy in Korea 1950-1953* (Lawrence, KS: University Press of Kansas, 2000). Craine argues that following Desert Storm, the Navy and Marines continued to challenge the JFACC construct. "The Navy and Marines point out that the JFACC's staff was almost all Air Force and argue that the last 'C' stands for 'coordinator,' so they should still maintain control over their own air assets,"(page 183). Additionally, LCMD Anthony T. DeSmet, *Effects of Doctrine and Experience on Close Air Support Operations in Korea (1950-1951)* (Maxwell AFB, AL: Air University Press, 2000), begins by analyzing the effectiveness of CAS during the Korean War. However, the author rapidly degrades into a discussion on which service best interpreted what CAS truly was. In the end, the lessons learned are that the Navy and Marines were far superior in executing CAS, not because of any special tactic, but because the Marines were actually designed to accomplish this mission and had practiced doing so. The Army and Air Force were "not fully prepared…and ill equipped to fight", however the reasons behind that of the type of fight both services were expecting to fight were never offered (page 25). See also, Ian Horwood, *Interservice Rivalry and Airpower in the Vietnam War* (Fort Leavenworth, KS: Combat Studies Institute Press, 2006).

[84] Lambeth, "OEF," 265–266.

service representation within what was established as a Combined Joint Task Force (CJTF) Mountain and the failure of the Army to field a force manned and equipped for the fight in which they were about to engage.[85] More important was the lack of coordination of any plans with the air component.[86] The difficulty is discerning if the degree to which Anaconda was a near defeat was the result of poor preparedness caused by a rush to get into the fight, or avoidance of supporting components to allow the Army to say it had carried the ball for a change.[87] Either option presents varying degrees of institutionalism characteristic of the *de facto* that eventually led to a "poor integration of components."[88] Of importance are the lessons learned by General Franks and the changes he pushed in the planning for OIF.

Franks' preparations for major combat operations into Iraqi indicated a response to quash institutionalism within the *de facto* and gain a higher degree of unity of effort. Mr. Shoupe, then USAF Colonel and lead planner for the air component, observed significant efforts made by all the Component Commanders to ensure that there was "one plan – CENTCOM's plan."[89] Franks drove a grueling schedule to force the synchronization of the plans of the Component Commanders. All components sent representatives every four to six weeks to integrate the planning effort from the

[85]Lambeth, "OEF," 265-266.
[86] Lambeth, "OEF," 266.
[87] HQ USAF/A9L, *Enduring Lessons from OEF/OIF*, 26. This report supports Lambeth's initial assessments but highlights the fact that the Army side stepped established doctrine on the structure of JTF staffs and that this decision ended up removing the air component from the planning efforts for Operation Anaconda. It took two days of operations before the AOC was able to establish supporting operations.
[88] Shoupe, interview. Col Shoupe placed a majority of the responsibility for error on the way that 10th Mountain was fielded, and noted that this displayed a degree of the Army rushing to get into the fight. There was a significant desire to field conventional forces that could not be bribed and could block escaping Taliban and Al-Qaeda forces.
[89] Shoupe, interview. See also, HQ USAF/A9L, *Enduring Lessons from OEF/OIF*, 36. The report identified that robust coordination efforts later in OEF and OIF were due in a large part to the memory of Operation Anaconda and a strong desire to never let something similar happen again.

Combatant Command down.[90] Franks' efforts proved their value when, at the last minute, the plan changed from several days of air strikes to a "running start" concept.[91] Having worked so closely together for past several months, the component planners rapidly determined the ability to support the new plan and best means to execute it.[92] Additionally, when the initiation of combat operations jumped forward due to intelligence on a possible location of Saddam, the Component Commanders had confidence knowing how their counterparts would respond.[93]

Finally, none of the operations, planning, or coordination would have been possible without the technology that the DOD employed. Lambeth argued that the successful integration of Special Operations Forces (SOF), and the Air Force in OEF, could not have occurred without advances in secure communications, advances in intelligence, surveillance, and reconnaissance (ISR), and precision weapons.[94] Space-based assets provided means to communicate thousands of miles between the AOC and airborne assets, as well as systems that gathered a never-ending stream of intelligence data.[95] Space also supplied a more accurate means to locate friendly forces and targets through the Global Positioning System (GPS).[96] All of these various technological capabilities enabled rapid target detection, identification, and strike through the synchronization of SOF and airpower. As Murray concluded, "The driving effect of the

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[90] HQ USAF/A9L, *Enduring Lessons from OEF/OIF*, 36.
[91] Shoupe, interview. Noted that the primary plan for Operation Cobra II had shifted to one where all the components were to attack at essentially the same time. The idea being that with the Iraqis facing overwhelming attacks from air, land, and sea all at once the affect of shock and awe would truly be gained.
[92] Shoupe, interview.
[93] William Murray, "Operation Iraqi Freedom, 2003," in *A History of Air Warfare*, (Washington, DC: Potomac Books, 2010), 287. Additionally, Shoupe, interview: "The plan was perfect. It was the execution that got a little shaky."
[94] Lambeth, "OEF," 256-258.
[95] Lambeth, "OEF," 258. Hukill, interview.
[96] Lambeth, "OEF," 262.

ground forces helped pull the enemy out into the open, where close air support and interdiction strikes destroyed much of [Saddam's] force."[97]

Similarly, the Navy and Air Force found significant ways to synchronize their efforts. On one hand, the Navy was highly reliant on both British and US tankers to enable its aircraft to cover the ranges required when supporting SOF operations.[98] But the Navy was able to bring its airpower to bear more quickly in OEF than the Air Force due to flights from the multiple carriers deployed to the region. Once established, the Air Force adjusted its sorties in response to Navy carrier cycle times. Due to the long-range sorties for OEF, the carrier established a non-standard 20-hour deck cycle time. This left four hours each day with reduced air cover to support SOF operations.[99] Air Force planners shifted the weight of their sorties to cover that gap.

Due to the challenges of Operation Anaconda, Lambeth placed most credit for the success of the initial phase of OEF in the hands of integration due to technological abilities and requirements.[100] He then demonstrated the very institutionalism within the *de facto* that caused rifts in OEF when he attempted to claim SOF as valuable because of its ability to acquire targets for airpower to destroy.[101] Murray approached the conclusion to his analysis of OIF from a very different angle. "Airmen in their dogmatic approach to airpower have all too often confused their narrow desire for unity of effort over all air assets with the larger issue of why and for what purpose nations wage war. It is the larger strategic and political context as well as the nature of the enemy that must

[97] Murray, "OIF," 296.
[98] Lambeth, "OEF," 258.
[99] Lambeth, "OEF," 261.
[100] Lambeth, "OEF," 275.
[101] Lambeth, "OEF," 277. "That new dynamic made all other major aspects of the war possible, including the integration of SOF teams as human ISR sensors with precision-strike airpower," (page 277).

determine how airpower should be used"[102] However, his conclusion should be broadened to include the entirety of the DOD. The Air Force report on OEF/OIF comes much closer to the mark. It identifies final success as being driven by "the climate created by the commanders, allowing trusting relationships between the staff members of USCENTCOM, the components, and other supporting staffs."[103] By initiation of major combat operations in Iraq, Franks had achieved a high degree of unity of effort by codifying lessons learned within *de jure*, controlling institutionalism within *de facto*, and taking advantage of the technology then available. This moment in history represented the high water mark for unity of effort and there by the ability to effectively plan and execute inter-service operations. But there remains room for improvement.

Summary

As demonstrated, concepts on inter-service operations have continued to evolve throughout the history of the military. Three principles dictate the degree of unity of effort attained and thereby the ability of the commanders of the time to plan and execute inter-service operations. *De jure* and *de facto* confront each other to gain control of the available technology as depicted in Figure 1.

The Civil War lacked the technology for commanders to have other options, lacked the *de jure* to hold commanders to work with the other service, and had a strong *de facto* that ran counter to inter-service operations. The resulting unity of effort could be classified as separation. WWII saw significant changes in technology, but lacked changes in *de jure*, which left commanders with a bi-polar *de facto*; having to individually decide how to employ the new technology. Unity of effort shifted to a state

[102] Murray, "OIF," 295.
[103] HQ USAF/A9L, *Enduring Lessons from OEF/OIF*, 47.

of deconfliction. Desert Storm saw *de jure* change significantly and finally indicate which side of *de facto* military professionals were expect to lean toward. However, it took a select group of commanders with memories of the cost of inter-service fighting during war to effectively wield the available technology proficiently enough to attain a degree of unity of effort that could be considered cooperation. As the DOD began fighting in OEF/OIF, it found a resurgence of institutionalism driving a decline in *de facto*. However, the DOD was equipped with *de jure* that enabled its commanders to gather lessons learned and adjust attitudes to effectively employ technologies that enabled greater unity of effort. Additionally, the technology available, by its nature, drove synchronization within the Joint Force. It can be argued that unity of effort, and, with it, the abilities to plan and execute inter-service operations has plateaued at the ability to synchronize efforts. Although the Goldwater-Nichols Act of 1986 has done a great deal to correct problems within the DOD, there is more that can be done.[104]

[104] Skelton, "Ceremonial Presentation." Congressman Skelton gave great credit to the problems that Goldwater-Nichols did correct.

Chapter 2

Current Concepts on Joint Operations Have Plateaued: The Evidence

> *Goldwater-Nichols made possible the remarkable military successes of the 1990s. I still take great satisfaction in my role in helping pass the Goldwater-Nichols Act and believe it was one of the most significant contributions to our national security.*
>
> Senator Sam Nunn

> *The act has attained most of the objectives established for it, helping to transform and revitalize the American military profession in the process.*
>
> James R Locher III

> *It has achieved eighty percent of its objectives and will go down in history as a major contribution to the nation's security.*
>
> General John Wickham

James Locher, lead staffer for the Senate Committee on Armed Services during the development of the Goldwater-Nichols Defense Reorganization Act of 1986 (GNA), argued in his 2002 book *Victory on the Potomac* that the legislation had accomplished many of its original objectives. Several key individuals such as Senator Sam Nunn and General Schwarzkopf have supported Locher's assessment as indicated in the quotes above. However, much remains that requires improvement, as General Wickham's quote in the epigraph indicates.

The GNA set realistic and achievable objectives designed to improve the DOD's unity of effort through regulated unity of command. As discussed earlier, major combat operations during OIF provide two poignant insights to the current degree of unity of effort. First, the DOD has come a long way and is much better at planning and executing Joint Operations. Second, the services rapidly fell back into parochial institutionalism after the initial phase of major combat operations was complete, which underscores the need for still more change within the Joint Force. This is not to say that the DOD

requires an update to the GNA or should completely trash Joint Operations doctrine, far from it. The GNA set forth key directives that are still valid today and will continue to be into the future. But observations by James Locher and others strongly indicate that the DOD has yet to live up to all that Senator Barry Goldwater and Representative William Flynt Nichols envisioned.

The world in which the DOD will operate in the future is rapidly changing. The *JOE 2010* identifies the current and developing combat environment as containing more flexible adversaries, the employment of more advanced technology by less powerful actors, reduced resources, and significant asymmetric threats that will inhibit US global power projection.[1] These predictions have led the current and past two Chairmen of the Joint Chiefs of Staff to argue that the DOD is not as integrated as it must be to remain strategically effective. Additionally, the significant investment in the rapidly developing AirSea Battle Doctrine further indicates that Joint Operations as a baseline concept leaves too many unanswerable questions.[2]

This chapter presents the case that the current paradigm of Joint Operations has plateaued in its applicability. The current concepts on inter-service operations within the DOD have answered many questions on how to operate more effectively, but many more that cannot be answered through the current theory have come to the surface. This chapter examines many of those questions, which range from concerns over how to maintain the level of access to global commons that the US has enjoyed for close to one-

[1] United States Joint Forces Command, *Joint Operating Environment, 2010* (Norfolk, VA: United States Joint Forces Command, 2010), 12–37.
[2] Thomas S Kuhn, *The Structure of Scientific Revolutions* (Chicago, IL: The University of Chicago Press, 1962), 67. Kuhn argued that a scientific crisis initiates when too many questions are left unanswered by the old paradigm. The community of experts then looks toward a new paradigm that can answer more problems than the old theory (page 67).

hundred years to how to continue to develop a technologically advanced force in a fiscally constrained environment. In doing so, this chapter identifies the crisis that necessitates a new paradigm in inter-service operations.

Following Rosen's model, the current evidence indicates changes are occurring in the strategic environment. The fact that military strategists are experimenting with new doctrinal models and current leaders are seeking changes to the way the DOD will operate into the future all indicate that the current paradigm of Joint Operations has plateaued. Additionally, the analysis of how well the DOD has, and has not, met the expectations mandated in the GNA further points toward deficiencies within the present paradigm. The DOD is not only on the cusp of an evolutionary shift in the understanding of inter-service operations, but has been desperately searching for a new paradigm for some time.

Evaluation of the Goldwater-Nichols Defense Reorganization Act of 1986

1) Reorganize the DOD and strengthen civilian authority.
2) Improve the military advise provided to the President, National Security Council, and Secretary of Defense.
3) To place clear responsibility on the commanders of the unified and specified combatant commands for the accomplishment of missions assigned to those commands
4) To ensure that the authority of commanders of unified and specified combatant commands is fully commensurate with the responsibility of those commanders for the accomplishment of missions assigned to those commands.
5) To increase attention to strategy formulation and contingency planning.
6) To provide for the more efficient use of defense resources.
7) To improve joint officer management policies.
8) Otherwise, to enhance the effectiveness of military operations and improve DOD management and administration.

Figure 3: Primary Objectives Mandated on the DOD by the Goldwater-Nichols Act

Source: HQ USAF/A9L, Enduring Lessons from OEF/OIF, 4.

Figure 3 depicts the eight primary changes implemented with the passage of the GNA.[3] The GNA consisted of eight primary articles, all intended to change the *de jure* of the US DOD, forcing it to be more effective in the way it would wage future wars. Additionally, Congress desired a way to better balance joint and service interests within the DOD.[4] Theoretically, a higher degree of unity of effort was achievable by dictating the requirement for services to work together and focusing war fighting responsibilities on Combatant Commanders.[5] In some ways, as seen during Operation Desert Storm and potions of OIF, the theory has proven to be valid. The changes in command relationships proved highly successful in developing an effective Joint Task Force. In other ways, such as revolutionizing military procurement process, it proved to be short-sighted. The evidence provided by James Locher's books and articles, which have followed the GNA for nearly twenty years, indicate that when the GNA was able to dictate changes in *de facto* through mandated limits within the *de jure*, it was most successful.[6] However, when the services were left to find their own ways to accomplish GNA objectives, the existing *de facto* has led to less than stellar results. The following analysis of how successfully the Joint Force has met the GNA's eight primary mandates is indicative of

[3] Locher's 1996 article *Taking Stock of Goldwater-Nichols* addresses ten primary concerns. However all of his other references to the GNA describe eight objectives. Locher himself returns to eight objectives in his 2001 article *Has it Worked?* and in his 2002 book, *Victory on the Potomac*. This paper focuses on eight objectives as that appears to be the universally agreed upon number.
[4] James R. Locher, "Has It Worked? The Goldwater-Nichols Reorganization Act," *Naval War College Review* LIV, No 4, (Autumn 2001): 105.
[5] James R. Locher, *Victory on the Potomac: The Goldwater-Nichols Act Unifies the Pentagon*, 1st ed (College Station, TX: Texas A & M University Press, 2002), 10.
[6] Locher was one of the lead Senate staffer that wrote the GNA, he has since produced several articles and at least one book all evaluating the success of the GNA. His most recent was written in 2002. His assessment of how effective the DOD was in implementing the intent of the GNA is at the core of this section.

de facto continuing to fall short of the expectations of the *de jure*, rather than the *de jure* being faulty.[7]

Paralleling Rosen's theories, the DOD had attempted to correct the observed lack of unity of effort from within. General David Jones, Chairman of the Joint Chiefs of Staff in 1982, reported to Congress shortly before retiring that his attempts to change the direction of the US DOD had failed.[8] General Jones then placed the task of reforming the DOD in Congress' hands saying: "The system is broken. I have tried to reform it from inside, but I cannot. Congress is going to have to mandate necessary reforms."[9] The first task was for civilian leaders to regain control of the DOD.

Article 1: Strengthening Civilian Authority Over the DOD

The first objective of the GNA was to strengthen the degree of civilian control over the DOD.[10] This was in direct response to Congress' observations that the Chairman of the Joint Chiefs of Staff (CJCS) was too unrestricted and would often end run the Secretary of Defense (SECDEF) by organizing the other Joint Chiefs of Staff (JCS) against the SECDEF.[11] In response, the GNA directed that "the secretary of defense has sole and ultimate power within the Department of Defense on any matter on which the secretary chooses to act."[12] The GNA also better established the roles of the service secretaries. These two provisions clearly established whom military members worked for and that the chain of command in all maters eventually went through the SECDEF.

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[7] Several PME students and other key individuals have expressed the need for changes to the GNA over the past 25 plus years. Where their arguments were of value to this discussion they have been included.
[8] Locher, "Has It Worked?," 101.
[9] Locher, "Has It Worked?," 101.
[10] James Kitfield, *Prodigal Soldiers, How the Generation of Officers Born of Vietnam Revolutionized the Amercian Style of War*, Brassey's paperback ed, An AUSA Institute of Land Warfare Book (Washington, DC: Brassey's, 1997), 291. See also, Locher, "Has It Worked?," 103.
[11] Locher, *Victory on the Potomac*, 438–439.
[12] Locher III, "Has It Worked?," 106.

Locher, in 2001, gave the results of this aspect of the GNA an overall grade of "B-."[13] The grade was based on the determination that the degree to which SECDEFs have exercised their new found authority has depended on the personality of the individual.[14] "Not surprisingly, service secretaries energetically advocated parochial positions, frequently at the expense of their boss' broader agendas."[15] Again, the core of the problem is not within the *de jure*, but rather the *de facto*. The SECDEF has been given authority over the DOD; the success of each in meeting political goals is up to his individual ability to lead.

Article 2: Military Advice Provided to the National Security Council

Closely related to the civilian authority, was the type of military advice the President, National Security Council, and SECDEF received from the JCS. Prior to passage of the GNA, the CJCS resorted to seeking consensus from the JCS on any military advice given to civilian authorities.[16] Furthermore, each JCS had veto authority on any opinion given and could therefore ensure that nothing left the JCS that reflected poorly on his particular service.[17] The trend was for recommendations to be "reduced to the lowest common denominator, inoffensive to any service, even before they reached the

[13] Locher III, "Has It Worked?," 109.
[14] Locher makes references to "weaker performances of the Office of the Secretary of Defense" leading to problems keeping the service secretaries in line, as well as the JCS (Locher, *Victory on the Potomac*, 439.) However, SECDEF Donald Rumsfeld (2001-2006) is often highlighted as a SECDEF that overreached and meddled in affairs he should not have been concerned with (William Murray, "Operation Iraqi Freedom, 2003," in *A History of Air Warfare*, (Washington, DC: Potomac Books, 2010), 282.)
[15] Locher, *Victory on the Potomac*, 438.
[16] James R. Locher, "Taking Stock of Goldwater-Nichols," *Joint Force Quarterly*, (Autumn 1996): 12.
[17] Dwight D. Eisenhower, *Mandate for Change, 1953-1956: The White House Years* (Garden City, NY: Doubleday, 1963), 544. "When it came time to prepare budgets, it was particularly difficult to get the Joint Chiefs of Staff, collectively, to be guided by these policies. Each believed that although the sums allocated to the others were quite sufficient for national safety, the amounts approved for his own particular service were inadequate. The result was that budgetary decisions had to be made, rather than approved, at the civilian echelon. Thus the internal differences in our highest military mechanism tended to neutralize the advisory influence they should have enjoyed." In a related note Eisenhower continues: "I simply must find men who have the breadth of understanding and devotion to their country rather than to a single Service that will bring about better solutions than I get now" (page 544).

chiefs themselves."[18] GNA corrected this by granting the CJCS full authority over the Joint Staff and making only the CJCS the military advisor to civilian authorities.[19]

The CJCS, through the new construct, now gathers inputs from the JCS, but ultimately is the final arbitrator of recommendations provided to civilian authorities. SECDEF Richard Cheney commented the change "was a significant improvement."[20] General John Shalikashvili, Chairman of the Joint Chiefs of Staff 1993-1997, argued, "We have been able to provide far better, more focused advice."[21] Furthermore, Locher himself gives the results a solid "A" for its effectiveness.[22] Although it appears the DOD has met this objective, the problems that existed within the *de facto* which drove the need for change, have become apparent in other areas of evaluation. However, the GNA changes to *de jure* did have one other resounding success.

Articles 3 and 4: Place Responsibility and Authority in the Hands of Combatant Commanders

> *Goldwater-Nichols established very, very clear lines of command authority and responsibilities over subordinate commanders, and that meant a much more effective fighting force.*
>
> General H. Norman Schwarzkopf

The third and fourth areas of concern for the GNA are closely linked and refer to the responsibilities and authorities of Commanders of Unified and Specified Combatant Commands (CCDR). Prior to passage of the GNA, the CJCS and the CJS essentially ran wars and "combatant commands were weak, unified in name only."[23] The current *de jure* did not grant CCDRs authority to organize, train, and equip the service components

[18] Locher, "Has It Worked?," 110.
[19] Locher, "Taking Stock," 10.
[20] Locher, "Taking Stock," 10.
[21] Locher, "Has It Worked?," 110.
[22] Locher, "Has It Worked?," 110. Locher, *Victory on the Potomac,* 440.
[23] Locher, *Victory on the Potomac,* 440. See also, Locher, "Taking Stock," 12.

within their commands. Individual service chiefs tended to override the CCDR's decisions, pursuing those in the interest of their services instead.[24] The result was the degraded ability to unify efforts towards common military objectives. The CCDRs were forced to fight the nation's wars with both hands tied behind their backs.

The GNA corrected this deficiency by removing the CJCS and JCS from the CCDR's chain of command. As Figure 4 depicts, the CCDRs now report directly to the SECDEF when operational functions are concerned. This article of the GNA effectively removed the services from the operational decision making process and forced the service components assigned to Geographic or Functional Commands to answer to the CCDRs. Although some were concerned that this was a radical idea and would create "warlords", Congress had actually modeled the idea off of existing military doctrine that placed authority with individual unit commanders.[25] In the end, this was one of the most important decisions as far as this discussion is concerned.

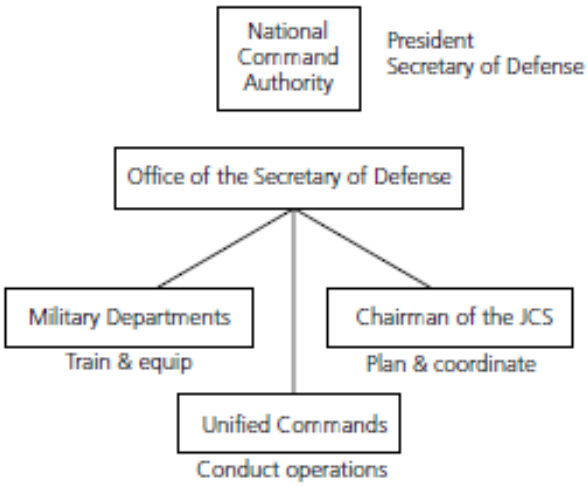

Figure 4: Components of the Department of Defense (DOD chart)

Source: Locher, Has It Worked?

[24] Kitfield, *Prodigal Soldiers,* 358.
[25] Locher, *Victory on the Potomac,* 441.

As General George Flynn, Joint Staff J7 Director, put it, "The Combatant Commanders are THE war fighters for the DOD."[26] Congress rightly identified that it had to place the responsibility and authority for the making of war fighting decisions in the hands of one individual, instead of a committee. Without the authority to work directly on behalf of the policy makers and command the components under the CCDR's control, the degree of unity of effort would be greatly reduced. Locher gives an overall grade of "A" on both counts (responsibility and authority) of this article.[27] However, several concerns have been voiced in response to this article of the GNA.

Major Robert LaBrutta, USAF, offered one such concern in his Naval War College thesis. In his 2002 opinion, LaBrutta argued that the CCDRs have too much authority and the CJCS has too little. He states that the "CJCS is not in the formal chain of command, he does not hold directive authority so he cannot insist the CCDRs or Service Chiefs execute a particular course of action."[28] LaBrutta argued the chain of command should flow from the CCDRs, through the CJCS, to the SECDEF. The net effect would be the CJCS becoming the chief war fighter of the DOD rather than the CCDRs, as well as shortening and simplifying the chain of command.[29] LaBrutta, however, misses that his recommendations run counter to the very solutions Congress was trying to put into place, namely, the separation of administrative and operational efforts within the DOD that led to less unity of effort. Locher himself expressed another concern.

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[26] George Flynn (Lt Gen USMC, Joint Staff J7 Director), interview by the author, 15 November 2012.
[27] Locher, "Has It Worked?," 110-111.
[28] Robert D. LaBrutta, Maj, USAF, *Walking the Walk, The Final Step to Full Implementation of Goldwater-Nichols* (Newport, RI: Naval War College, 2002), 8.
[29] LaBrutta, *Walking the Walk,* 8. LaBrutta argues that the current chain of command creates more confusion by making it unclear when the CCDRs should address the CJCS and when they should go directly to the SECDEF (page 8).

Locher fretted over the "slow progress of joint doctrine and resistance to the missions of the Joint Forces Command (formerly Atlantic Command) in the training, integration, and provision of Joint Forces and experimentation with new concepts."[30] The source of this concern falls outside the reach of the GNA. Legislation can dictate and enforce changes in the *de jure*, but the continuation of service institutionalism rests within the realm of *de facto*, which cannot be mandated. The first four objectives of the GNA continually receive high marks from Locher, because they are legally binding and leave little room for military officers to maneuver and still remain within legally established boundaries.[31] However, the second half of the objectives leave much to individual services *de facto*, just as the degree of cooperation within a Combatant Command is highly determined by the attitudes of Component Commanders.[32] As the potential for *de facto* to influence the accomplishment of a GNA objective increases, the assessed ability of the Joint Force to meet the objective tends to decrease.

Article 5: Increase Attention on Strategy Formulation and Contingency Planning

Kitfield places his finger firmly on the litany of grossly flawed military operations leading up to the GNA as the primary driver for this article of the GNA.[33] Locher included the majority of the existing contingency plans which were based on fiscally unconstrained assumptions making them wholly invalid and ultimately worthless.[34] Additionally, plans were often kept from civilian policy makers based on security

[30] Locher, "Has It Worked?," 111.
[31] Locher gave high marks to the first four objectives in his 1996 and 2001 articles and his 2002 book.
[32] The final objective really emphasizes the overall intention of the GNA to establish a more efficient DOD. This makes it unnecessary to cover it separately. Therefore, the remaining three articles are addressed.
[33] Kitfield, *Prodigal Soldiers,* 278.
[34] Locher, *Victory on the Potomac,* 441. Locher, "Taking Stock," 14.

requirements.[35] The net result was a series of disjointed, invalidated, and wholly made up plans.

Congress attempted to correct this problem by establishing a four step review process to directly link national policies to contingency plans with a feedback system.[36] The GNA had some success, in that the contingency plans were better than before.[37] However, the specter of service institutionalism continually returned to haunt planning efforts. By 2001, Locher expressed concerns that current plans "betray strong attachment to the past."[38] As discussed earlier, planning for Operation Anaconda displayed a tendency for military planners to fall back into parochial service decision making at the expense of national-level objectives. Similarly, current operations often run into roadblocks when various services are unable to place institutionalism aside and address the needs of the mission.[39] The *de jure* in this article dictated the joint development of more realistic contingency plans as well as greater transparency with civilian leaders was unable to dictate a change in *de facto* attitudes on inter-service operations.[40] Ultimately, the decision on how to actually work together and develop Joint plans placed in the hands of the services. Because of this, any evaluation is actually an assessment of the degree of *de facto* attained by implementing the changes of the first four articles of the GNA. Locher's overall assessed a grade of a "C" in 2001 is telling of how effective the DOD

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[35] Locher, *Victory on the Potomac*, 442.
[36] Locher, *Victory on the Potomac*, 441. "First [the GNA] directed the president to submit an annual report on national security strategy. Second, it instructed the JCS chairman to prepare fiscally constrained strategic plans. Third, the act required the defense secretary to provide written policy guidance, including political assumptions, for preparation and review of contingency plans. The fourth provision directed the undersecretary of defense for policy to assist the secretary on contingency plans," (page 441).
[37] Locher, "Taking Stock," 14.
[38] Locher, "Has It Worked?," 111.
[39] CSM McCarter, interview.
[40] Locher, *Victory on the Potomac*, 442.

has been in enhancing the effectiveness of military operations.[41] Vagaries within theater contingency plans cascaded into other areas of the DOD.

Article 6: More Efficient Use of Defense Resources

Naval Historian Jeffery Barlow's book *Revolt of the Admirals,* provides a poignant example of the problems that Congress was trying to solve with this objective. The years from 1948 through 1950 consisted of a knock-down drag-out brawl between the newly formed Air Force and the Navy on how the US should project power.[42] Although Barlow attempted to paint this as an argument over future roles of the two services, the root of the problem was the Navy's loss of funding for future aircraft carriers.[43] The Navy was upset that *its* money was being spent on Air Force B-36s. The services were unable to work toward a common goal and continually pursued parochial interests in part because of disjointed strategic plans and because they "justified their existence through their accomplishments."[44]

The GNA attempted to fix this problem by giving the CJCS authority over the JCS. This concept linked the idea of making the CJCS responsible for providing all military advice with the requirement for him to assess future procurements. Ideally, CCDRs identify the capabilities they need service components to provide and the services determine how best to balance those needs across all Combatant Commands. Those recommendations should then flow to the CJCS for lobbying with Congress through the

[41] Locher, "Has It Worked?," 111.
[42] Jeffrey G Barlow, *Revolt of the Admirals: The Fight for Naval Aviation 1945-1950* (Washington, DC: Government Reprint Press, 2001).
[43] Barlow, *Revolt of the Admirals,* 184-185. Barlow noted that it the Navy did not become belligerent in its actions until after the cancellation of the USS United States, which they perceived as a significant budgetary set back (pages 188 though 191).
[44] CSM McCarter, interview.

SECDEF.[45] Theoretically, it would be highly effective if the CJCS evaluated programs based on commonality of capabilities.[46] However, aside from one instance in which CJCS General Colon Powell overrode the JCS to reduce the DOD by 25 percent following the end of the Cold War, CJCSs have tended to carry the water for the Service Chiefs' acquisition programs.[47] Reminiscent of the challenges within military advice that led to the GNA in the first place, politicians are currently chasing multiple independent service priorities with regard to procurement programs.[48]

Services rarely coordinate acquisitions, rarely consider how their individual programs will integrate with those of other services, and typically will fight tooth and nail for their *sacred cows*.[49] Locher expressed strong concerns that if CJCSs continue to permit activities of this type, they "abandon the intentions of Goldwater-Nichols."[50] In the end, Locher gave the success of achieving this object his lowest overall assessment at a "D".[51] A degree of trust is required when it comes to acquisition programs. Trust that the other service is going to live up to promises to provide the support needed. Trust that services are going to develop systems that have the capabilities expected. However, trust

[45] Locher, *Victory on the Potomac*, 443.
[46] Todd Harrison and Mark Gunzinger, *Strategic Choices Navigating Austerity* (Washington, DC: Center for Strategic and Budgetary Assessments, 2012),21.
[47] Locher, *Victory on the Potomac*, 443.
[48] Elihu Zimet and Charles L. Barry, "Military Service Overview," in *Cyberpower and National Security* (Washington, DC: National Defense University Press, 2009), 294–295. Zimet and Barry noted similar problems in the development of the DOD's cyber network, where the organizational culture and service parochialism made it difficult to develop a joint network able to meet the needs of all participants (pages 294-295).
[49] Development of the F-35, which has drug on in part due to service disagreements about what capabilities the new aircraft needs, serves as one modern example. Furthermore, following Desert Storm, the USAF considered cancelling the A-10, which the USA was highly dependent upon for Close Air Support (CAS). The USAF also expressed significant concerns when the USN discussed cancelling the EA-6B program until the EF-18G was named as the replacement airborne jamming system.
[50] Locher, "Taking Stock," 14.
[51] Locher, "Has It Worked?," 111.

cannot be dictated by the *de jure*, it must be earned and learned and it was the failure to achieve the next objective that has further influenced the failings in this one.

Article 7: Improve Joint Officer Management Policies

Prior to the GNA, a joint duty assignment was the kiss of death to an officer's career. A 1985 *Defense Organization* report stated that "military officers do not want to be assigned to joint duty; are pressured or monitored for loyalty by their services while serving on joint assignments; are not prepared by either education or experience to perform their joint duties; and serve for only a relatively short period once they have learned their jobs."[52] If the new Joint Force was to succeed, it needed capable officers to serve on the Joint Staff and effectively represent their service capabilities to the CCDRs.

In an attempt to remedy this shortfall, the GNA dictated that officers had to have joint experience for promotion and mandated joint education at various levels of Professional Military Education (PME).[53] The intention of the article was to incentivize services to send their most capable officers to joint duties rather than trying to keep them within their respective services.[54] Additionally, this objective intended to create a mindset of jointness in an attempt to change the *de facto* of the day and facilitate better unity of effort in the future. Although Locher misses it, as did Goldwater and Nichols, this was the true core article of the GNA if the changes desired were to be long lasting. However, the GNA made the critical error of not dictating the contents of joint PME, and thereby it left it up to the services to decide.

[52] Quoted in Locher, "Taking Stock," 14.
[53] Locher, *Victory on the Potomac*, 444.
[54] CMDR Henry T. Buckley III, *The Goldwater Nichols Act - Are We Finally There?* (Carlisle Barracks, PA: US Army War College, 2007), 3.

Commander Henry Buckley, USN, argued in his 2007 United State Air War College (USAWC) thesis for additional reform to the current Joint PME. He identified that should the amendments being considered in March of 2007 be implemented by Congress, "Jointness will be the normal way of life for all officers."[55] However, that was solution was not the panacea as expected. In 2012, General Flynn argued before the sitting Air War College class that the DOD needed to do better when it came to joint education.[56] Apparently, Commander Buckley's prescribed changes had done little to modify the *de facto* over the past five years.

There is significant goodness to services promoting their individual capabilities and perspectives: however, this must be balanced with the interests of the joint community. Locher ultimately graded the ability of the DOD to achieve this objective of developing a new *de facto* within the joint community as a "C+".[57] Locher cames close to identifying the root cause when he asserted that the services were "indifferent" in their application of the provisions of the GNA in this instance.[58] Again, the problem exists within the arena of *de facto* attitudes. Jointness is still a four-letter word in many circles within the services. Even attempts to instruct to the planning of Joint Operations focuses more on organization charts with pretty patches, rather than developing an understanding of capabilities and limitations that would enable more effective integrate with those capabilities.[59] A further challenge is the need to identify the "attitude desired of PME

[55] Buckley, *The Goldwater-Nichols Act*, 12-13.
[56] Lt Gen George F. Flynn, "Capstone Concept for Joint Operations: Joint Force 2020" (lecture, Air War College, Maxwell AFB, AL, 14 November 2012).
[57] Locher III, "Has It Worked?," 112.
[58] Locher III, "Has It Worked?," 112.
[59] Author's experience from attending Joint Planning courses as taught by Air Command and Staff College in 2011-2012.

graduates."[60] The Joint Force does not have a solid grasp of how it wants PME graduates to think or what they should value. In the end, the graduates reflect the ideals of the service that hosts the school they attend; and, more often than not, this is the student's own service.[61] Without solving this problem, the other elements of the GNA will lack the degree of *de facto* necessary to facilitate the established *de jure*.

Ultimately, as both Congressman Skelton and General Flynn argued, the GNA does not need to be rewritten, nor is the DOD in need of a modern-day GNA.[62] The GNA has accomplished some great things and fixed significant problems within the DOD. CCDRs now have the responsibility and authority to link service capabilities to meet national objectives. It firmly established civilian authority over the DOD, and improved the usefulness of the military advice given the nation's leaders. However, the continued success of these elements and the DOD's ability to successfully address future adversaries is dependent on the services' de facto, and their ability to set aside parochialism and work toward the common national security objectives through a heightened degree of unity of effort.

In 1986, Congress missed the core enabler of the desired changes contained within the GNA. Success of the GNA does not rest upon heightened civilian authority over the DOD or stronger command authority of the CCDRs. Although, as seen, these objectives have been able to run roughshod over the core problem, the ultimate problem lies within the *de facto* attitudes of the services. What do military officers think about

[60] Lt Gen Flynn, interview.
[61] Author's personal experience showed the Air Force emphasized airpower theories throughout its Air Command and Staff College, while students at Leavenworth received instruction focused on the land component. Furthermore, the preponderance of students attend PME schools of their own services, at all levels of PME, rather than seeking the opportunity to expand the breadth of their experiences by attending a sister service school.
[62] Skelton, "Ceremonial Presentation"; and, Lt Gen Flynn, interview.

Joint Operations and what is their degree of trust in the other services? The implementation of joint PME was ultimately left up to the services to determine, and the logrolling observed prior to the GNA with regard to military advice given to civilian authorities is now manifest in joint doctrine and education. Each service gets to hack on any joint doctrine before it is published. The result can sometimes be watered down and weak doctrine that is often confusing and holds little applicability.[63] Similarly, Joint Education does little to promote integration and trust among the services. The ultimate problem is that the expected future environment is becoming more unsure and dangerous and the services ability to work together has not advanced as much as desired. The DOD can influence the effectiveness of inter-service operations, and by developing a better understanding of what it means to operate jointly it will naturally generate a higher degree of unity of effort and better wage future wars.

As Kuhn, Rosen, Posen, and Constant would most likely agree, the future environment must be evaluated based upon what one currently possesses. Be it scientific understanding or technological ability, the current paradigm must be evaluated against the expected future. So too, the current Joint Force with its understanding of *de jure*, *de facto*, and technology must be evaluated against what analysts and military professionals predict the future strategic environment will be. The next section provides an assessment of the current Joint Force's ability to address future security challenges and enable the nation to continue to project power globally.

[63] Lt Gen Flynn, interview. Lt Gen Flynn expressed frustration with the need for each service to concur on documents and doctrine before it can be published.

Future Joint Operations Environment: The Presumptive Anomalies

The *JOE 2010* opens by highlighting two significant constants of modern warfare. The first is that the nature of war, its ultimate purpose, has not changed from that which Clausewitz famously penned several centuries ago: "War is thus an act of force to compel our enemy to do our will,"[64] it "is an act of policy."[65] Secondly, the environment in which the DOD must operate is continually changing.[66] However, as Admiral Michael Mullen identified in 2005, the capabilities of the current Joint Force are "not enough to meet future challenges" as described in the *JOE 2010*.[67]

Observed and expected changes around the world continue to create a more volatile and unsure environment. Strategic surprise, cumulative indirect effects, and asymmetric influences, will greatly challenge "America's ability to project power rapidly and conduct and sustain operations globally."[68] An understanding of the threats informs how the Joint Force must adapt. Without change, the Joint Force will be unable to effectively address its principle objective of ensuring the security of the nation by continuing to deter potential threats to the homeland, ensuring continued access to secure global commons, and be able to effectively fight and win future conflicts.[69] Ultimately,

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[64] Clausewitz, *On War*, 75.
[65] Clausewitz, *On War*, 87.
[66] Joint Forces Command, *JOE 2010*, 8-10.
[67] Department of Defense, *Capstone Concept for Joint Operations, Version 3.0* (Washington, DC: Ft. Belvoir: Defense Technical Information Center, 2009), iv.
[68] Department of Defense, *CCJO v3.0*, 3.
[69] United States, *National Security Strategy of the United States of America* (Washington, DC: White House, 2006), 1. The 2006 NSS identifies nine "essential tasks", all designed to "provide enduring security for the American people," (page 1) See also, United States, *National Security Strategy* (Washington, DC: White House, 2010), 7. The current NSS identified four critical tasks to ensure the future security of the nation. They include: "The security of the United States, its citizens, and U.S. allies and partners; A strong, innovative, and growing U.S. economy in an open international economic system that promotes opportunity and prosperity; Respect for universal values at home and around the world; and An international order advanced by U.S. leadership that promotes peace, security, and opportunity through stronger cooperation to meet global challenges," (page 7).

the DOD, as a whole, must be able to counter rapidly increasing efforts to restrict the US' ability to project power into areas of conflict.

Continued Deterrence of Potential Threats to the US

Defense of the homeland of the US has become the defense against more asymmetric threats than concerns over the conventional means seen in the past. Few assessments address concerns over a conventional foreign military directly attacking the US in the way the Athenians invaded Sicily.[70] The nation's geographic position has been highly influential in deterring would-be foreign threats. The cost, time, and effort required to, first cross the Pacific or Atlantic Oceans and then mount an effective invasion of the continent have made it highly unlikely that an adversary will take that approach. Rather, the US recently has spent significantly more time and effort addressing the threat of an economic downturn and potential cyber attacks.

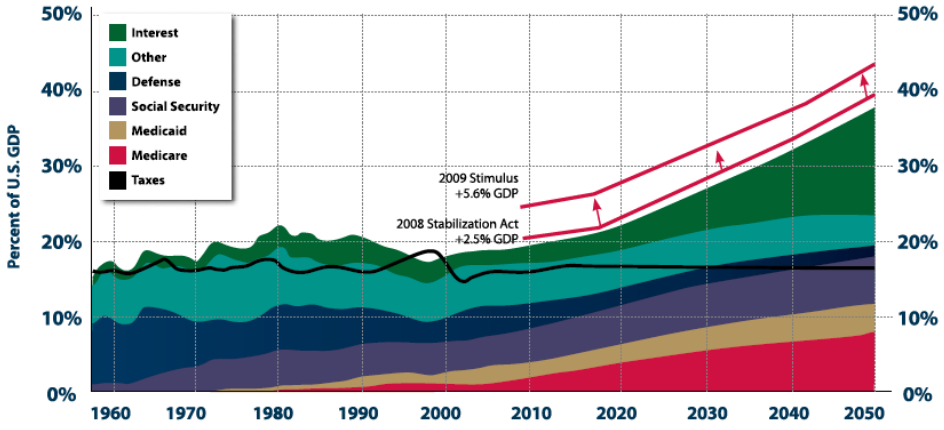

Figure 5: The Squeeze on Discretionary Spending

Source: Joint Forces Command, JOE 2010, 21

[70] Thucydides, *The Landmark Thucydides: A Comprehensive Guide to the Peloponnesian War*, ed. Robert B. Strassler, trans. Richard Crawley (New York, NY: Simon & Schuster, 1998), 377–378. Thucydides describes the Athenian force as "by far the most costly and splendid Hellenic force that had ever been sent out by a single city," (page 377). Thucydides lists as many as four thousand Athenian hoplites, three hundred horses, and one hundred triremes as making up just a portion of the overall force under Nicias command (page 378).

Likened to "shooting ourselves in the head" by Secretary of Defense Leon Panetta, the current US economic doldrums create a significant threat to the security of the nation.[71] The current National Security Strategy (*NSS*) further highlights that the US' ability to project power in support of other national interests is highly reliant upon a strong and stable economy at home.[72] Secretary Panetta echoed these concerns when he expressed noted how the pending military budget cuts would impact "our ability to respond to the threats that are out there."[73] As depicted in Figure 5, the steadily shrinking defense budget places significant strain on the ability of the Joint Force, as currently perceived, to support political objectives. "Fiscal constraints are a reality, we have to make choices."[74] A 2013 memorandum from Michael Donley, Secretary of the Air Force, and General Mark Welsh III, Chief of Staff, highlighted the criticality of this threat.[75]

In the memorandum addressed to the Deputy Secretary of Defense, Secretary Donley lists the crushing impacts that sequestration will have on mission readiness of the USAF.[76] Due to the expected budget cuts, the USAF is forecasting reductions in weapons system sustainment programs of 17%, reductions in flying hours of 18% (~203K hours across the entire AF), curtailing of operational training exercises, and

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[71] Quoted by Lucy Madison, "Defense Cuts Looming, GOP Senators launch Tour to Warn of Impending Devastation," *CBS News*, 26 July 2012, http://www.cbsnews.com/8301-503544_162-57480717-503544/defense-cuts-looming-gop-senators-launch-tour-to-warn-of-impending-devastation/ (accessed 29 November 2012).

[72] United States, *NSS 2010*, 4. The NSS states: "As we rebuild the economic strength upon which our leadership depends, we are working to advance the balanced and sustainable growth upon which global prosperity and stability depends. This includes steps at home and abroad to prevent another crisis," (page 4).

[73] Madison, "Defense Cuts Looming." See also Honorable Leon Panetta, Secretary of Defense, to Department of Defense, memorandum, 20 December 2012.

[74] Lt Gen Flynn, interview.

[75] Michael B. Donley, Secretary of the Air Force, and Gen Mark A. Welsh, Chief of Staff, Air Force, to Deputy Secretary of Defense, memorandum, 7 January 2013.

[76] Donley and Welsh, memorandum.

civilian furloughs.[77] The memorandum concludes that "The defense strategy requires the Air Force to maintain a high state of readiness across the total force. We cannot execute the strategy from a tired readiness posture."[78] Deployed units, and units preparing to deploy will receive the majority of funding, while "remaining units take the brunt of the cuts and stand down for extended periods of time."[79] In this regard, the budgetary challenges of the nation represent a clear and present danger to the future security of the US. While this appears to be an internal problem, it is actually indicative of an increase in global economic and resource stresses that further threaten the US.

As seen in Figure 6, the economic linkages between nations have greatly increased due to globalization. While this interdependence is often seen as generating a more peaceful world, the *JOE 2010* highlights a significant concern as globalization grows. It notes that, as nations become more interconnected through trade, small and large economic changes within one country become more likely to ripple across the world. Additionally, the greatest concern of growing globalization is that the rich get richer, while the poor get poorer.[80] Figure 7 depicts how the percentage of the world population that lives in developed countries has essentially plateaued, while those living in developing countries are still rapidly growing. This imbalance causes rifts in the world population.[81] It is more likely that poorer nations and non-state actors will act aggressively as this monetary gap increases.[82]

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[77] Donley and Welsh, memorandum.
[78] Donley and Welsh, memorandum.
[79] Donley and Welsh, memorandum.
[80] Joint Forces Command, *JOE 2010*, 17. See also: Peter Dicken, *Global Shift: Mapping the Changing Contours of the World Economy*, 6th ed. (New York: Guilford Press, 2011), 47.
[81] Dicken, *Global Shift*, 22.
[82] Dicken, *Global Shift*, 528–529. Dicken stated: "But the evidence…suggests a very different reality for a substantial proportion of the world's population, particularly in the poorest countries and regions but also

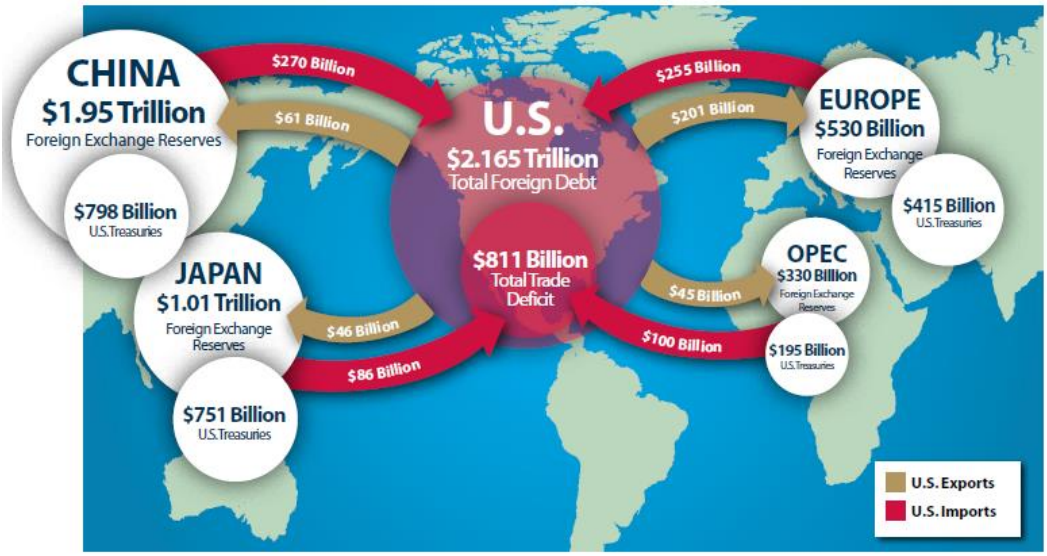

Figure 6: Global Trade and Finance Imbalances

Source: Joint Forces Command, JOE 2010, 19.

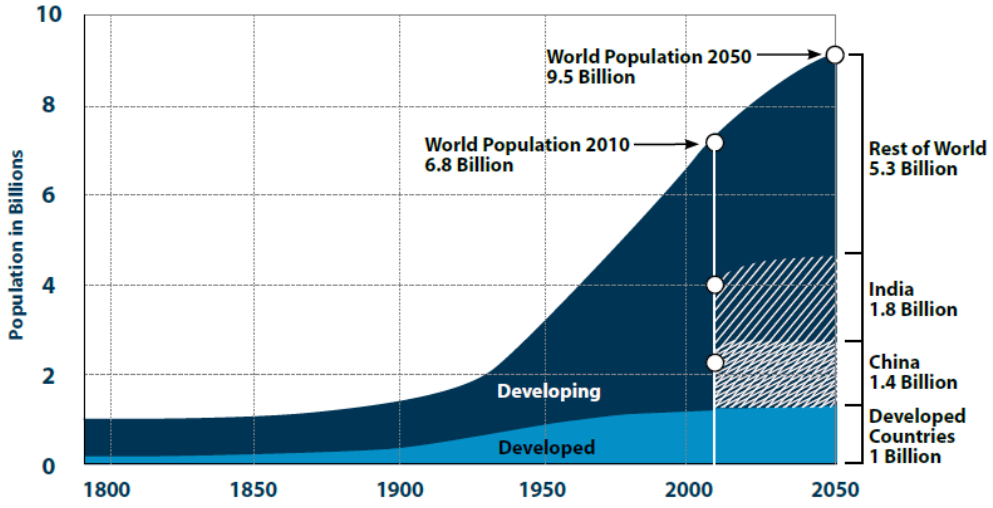

Figure 7: Population to 2050: Developed and Developing World

Source: Joint Forces Command, JOE 2010, 14.

among certain sectors of the population in affluent countries, who have not benefited—or benefited very little—from the overall rise in material well-being," (pages 528-529).

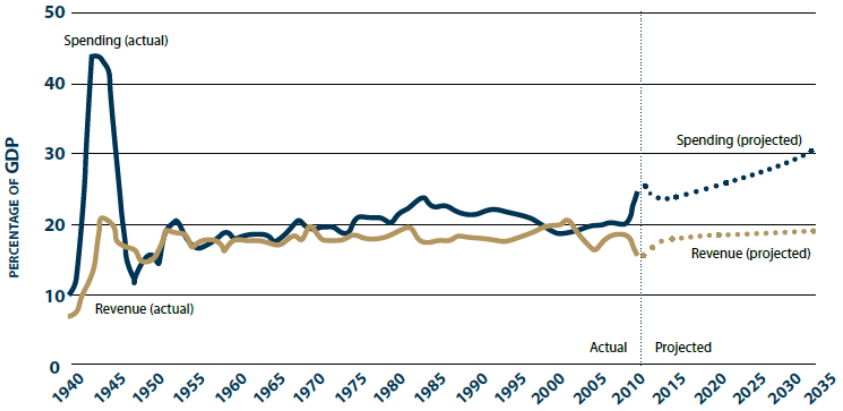

Figure 8: Federal Spending and Revenue

Source: Joint Forces Command, JOE 2010, 20.

The slipping international economy has also played havoc on the US economy. As Douglas Elmendorf, Direct of the Congressional Budget Office (CBO) put it, "[America] faces a fundamental disconnect between the services people expect the government to provide…and the tax revenues that people are willing to send to the government…The fundamental disconnect will have to be addressed in some way if the budget is to be placed on a sustainable course."[83] As seen in Figure 8, the level of overall government expenses is rapidly outstripping the revenues brought in. Decisions made within the US Congress have begun the process of reigning in government spending, and with that defense spending.[84] All of these factors are working to reduce the fiscal resources available to continue to build a DOD able to address external threats.

In 2012, the Center for Strategic and Budgetary Assessments (CSBA) chaired a study aimed at developing strategies to maintain a capable Joint Force while still meeting the need to reduce the monetary cost of the DOD. The study highlighted the immense

[83] Joint Forces Command, *JOE 2010*, 19.
[84] Secretary Panetta, memorandum.

challenge faced by the DOD. While adapting to a smaller budget, the DOD is also shifting its attention toward the more sophisticated challenges of anti-access/area-denial (A2AD) threats. The CSBA concluded that to successfully navigate future fiscal challenges, the DOD must make choices, rather than accepting equal percentage cuts across all programs.[85] The most important recommendation is to select the budgetary winners early. That is, the Joint Force needs to determine what capabilities it is most likely to need in the near and mid-term future and aggressively pursue the development of those programs.[86]

To accomplish this, programs that are of a lower priority and offer little to the national security strategy should be cut early. This strategy relies on two critical elements. First, rather than starting with the various past budgets of the military services' and adding or subtracting from there, the services should start with the national security objectives that they support and work backwards. Reminiscent of the advice of military theorists, the DOD must understand what it is expected to do before it can program for it.[87] In the CSBA exercise, various programs were arranged by fields of capability, rather

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[85] Harrison and Gunzinger, *Strategic Choices Navigating Austerity*, 23.
[86] Harrison and Gunzinger, *Strategic Choices Navigating Austerity*, 23.
[87] "And therefore the general who in advancing does not seek personal fame, and in withdrawing is not concerned with avoiding punishment, but whose only purpose is to protect the people and promote the best interests of his sovereign, is the precious jewel of the state." Sun Tzu and Samuel B Griffith, *The Illustrated Art of War* (New York: Oxford University Press, 2005), 202-203; "No one starts a war–or rather, no one in his senses ought to do so–without first being clear in his mind what he intends to achieve by that war and how he intends to conduct it…This is the governing principle which will set [war's] course, prescribe the scale of means and effort which is required, and make its influence felt throughout down to the smallest operational detail." Carl von Clausewitz and Bernard Brodie, *On War*, ed. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1984), 579; "Strategy can direct its endeavors only toward the highest goal attainable with the means at hand. Strategy thus works best in the hands of politics and only for the latter's purposes." Helmuth Moltke and Daniel J Hughes, *Moltke on the Art of War: Selected Writings* (Novato, CA: Presidio Press, 1995), 36; "I simply mean that civilized governments ought always to be ready to carry on a war in a short time,--that they should never be found unprepared. And the wisdom of their institutions may do as much in this work of preparation as foresight in their administration and the perfection of their system of military policy." Antoine-Henri Jomini, *The Art of War*, trans. G.H. Mendell and W.P. Craighill (Mineola, NY: Dover Publications, 2007), 41.

than the military service they came from.[88] This produced a more effective discussion and comparison of capabilities across the board and enabled the participants to better determine which programs they should keep. This strategy however, runs counter to the prevalent *de facto* even today. As General Richard Myers, then Chairman of the Joint Chiefs of Staff, wrote in 2005: "In the face of continued fiscal restraint, the ideas must become the basis and focus of joint experimentation at all levels so they can be fully tested for feasibility, adequacy, and acceptability. A deliberate, rigorous path from transformational concept to tangible Joint Force capability improvement is critical to supporting the joint warfighter and developing the optimal Joint Force for the 21st century."[89] The current paradigm of DOD resources distribution does not facilitate the type of thought processes or decisions recommended by the CSBA. The Joint Force as it currently stands will be engaging a dwindling budget at a significant disadvantage unless it changes its *de facto*.

Closely related to the lagging US economy is the threat of attacks through cyberspace. Identified as one of America's acupuncture points, cyberspace represents the soft underbelly that facilitates a majority of the world and US economy.[90] China's *people's war*—which leverages the strength of people to bleed a more powerful adversary from within—includes the ability to hack into an adversary's computer systems and directly impact everything from industries to manufacturing, business to telecommunications, and government services to defense agencies.[91] In 1999, inventor

[88] Harrison, *Strategic Choices*, 21-22.
[89] Joint Staff, *Capstone Concept for Joint Operations, Version 2.0* (Washington, DC: Ft. Belvoir: Defense Technical Information Center, 2005), v.
[90] Gen Victor N. Corpus, "America's Acupuncture Points," *Asia Times Online* (20 October 2006), http://www.atimes.com/atimes/China/HJ19Ad01.html (accessed 28 December 2012). See also, Zimet and Barry, "Military Service," 287.
[91] Corpus, "America's Acupuncture Points," 1.

and futurist Ray Kurzweil postulated that future warfare would focus on cyber capabilities. By 2009, Kurzweil predicted that "the security of computations and communication" would be the primary concern of the DOD.[92] Just ten years later, the threat would no longer reside just within state actors as "small groups combining humans and machine intelligence using unbreakable encrypted communication" would become prevalent.[93] Ultimately, today concerns reflect the threat that a well placed virus or other malicious code could greatly enhance the damage already done by a poorly performing economy. As Doctor Jeffrey Reilly, Department of Joint Warfare Studies, Air Command and Staff College, identified, "this change in environment is rapidly transforming the foundations of how we need to think about threats, battle space, and the conceptual underpinnings of the Joint Force."[94]

The *JOE 2010* predicts that, based on the speed of advance seen within computer technology, even "greater change will occur over the next twenty years."[95] Similarly, Kurzweil argued that the rate of advances within computing capabilities continues to double every twenty four months.[96] As depicted in Figure 9, the speed at which calculations are now being made, and expected to be made in the future demand a Joint Force that is able to identify a threat and determine its source, as well as a means to deter or defeat it at astounding speeds. Eventually Moore's Law will cease to apply,[97] but

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[92] Ray Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence* (London: Penguin, 2000), 197.
[93] Kurzweil, *The Age of Spiritual Machines*, 207.
[94] Jeffery Reilly, *What's After Joint*, (paper presented to Cross Domain Operators Course, Maxwell AFB, AL: 2013), 1.
[95] Joint Forces Command, *JOE 2010*, 34.
[96] Kurzweil, *The Age of Spiritual Machines*, 102–105.
[97] "Gordon Moore, an inventor of the integrated circuit and then chairman of Intel, noted in 1965 that the surface area of a transistor (as etched on an integrated circuit) was being reduced by approximately 50 percent every twelve months. In 1975, he was widely reported to have revised this observation to eighteen months. Moore claims that his 1975 update was to twenty-four months, and that does appear to be a better

Kurzweil places that occurrence at around 2020, still seven years off.[98] The very characteristic of cyberspace which the US and world economy relies upon make it a gateway to the country's interior, which is exceptionally difficult to protect. First, cyberspace is everywhere, so an enemy could come from anywhere.[99] Second, the anonymous nature makes it difficult to attribute actions to a specific state or non-state actor.[100] Third, to date, there exist no national borders or formal international legal system to effectively govern cyber activity.[101] The challenges that exist within the cyber world have been a strong impetus for change within the Joint Forces.[102]

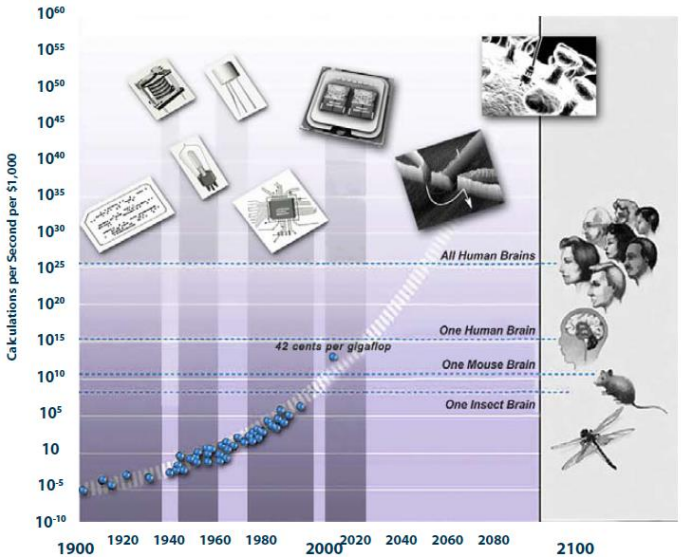

Figure 9: Exponential Growth of Computing

Source: Joint Forces Command, JOE 2010, 35.

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fit to the data." The prediction that every two years twice as many transistors could be placed upon an integrated circuit board of a given size, effectively doubling the processing power became known as Moore's Law; Kurzweil, *The Age of Spiritual Machines*, 20-21.

[98] Kurzweil, *The Age of Spiritual Machines*, 102.

[99] Joint Forces Command, *JOE 2010*, 34. Corpus identifies China, Russia, Iran, North Korea, Venezuela, Cuba, and Syria, as well as others, as potential threats in cyberspace; Corpus, "America's Acupuncture Points," 1.

[100] Joint Forces Command, *JOE 2010*, 34.

[101] Joint Forces Command, *JOE 2010*, 34.

[102] Lt Gen Flynn, interview. Lt Gen Flynn identified developments within the cyber community and the need to more effectively integrate cyber capabilities into the current Joint Force construct as a major impetus for concepts like Globally Integrated Operations.

In response, the DOD formally established US Cyber Command (USCYBERCOM) as a Functional Combatant Command in 2010.[103] Army Times ranked General Keith Alexander, USCYBERCOM Commander, as the nineteenth most influential person within the DOD in 2012.[104] In another article, Army Times described the cyber threat as "here and now," no longer something of the future, but of the present.[105] While the Army, like the other services, has developed both offensive and defensive cyber capabilities, the degree of integration required to successfully address this threat as a Joint Force is lacking.[106] There are many more questions than answers on how cyber capabilities can and will be employed in the future at this time.[107]

Described by Secretary Panetta as a "pre-9/11 moment," the Joint Force must determine how a Functional Combatant Command (FCC) with global responsibility will function within the Geographic Combatant Commands (GCC).[108] As the cost of technology continues to decline, poorer states and non-state actors will look toward these asymmetric capabilities to gain an advantage over the US. Those adversaries live within areas that are the responsibility of the GCCs. "How should the supported and supporting relationships be constructed? Who should have the lead in an operation? Should Cyber Command present capabilities similar in fashion to how US Special Forces Command presents capabilities to the GCC? Currently there are more questions than answers," all

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[103] "100 Most Influential People, US Defense," *Army Times*, 24 December 2012, 20.
[104] "100 Most Influential People, US Defense," 20. This ranking beat out noted individuals as General Lloyd Austin III (Army Vice Chief of Staff), Colonel Jordan Thomas and Navy Captain Philip Dupree (developers of AirSea Battle), and General James Mattis (Commander US Central Command) (pages 16 through 25).
[105] Editorial, *Army Times*, 24 December 2012, 4.
[106] Daniel T. Kuehl, "From Cyberspace to Cyberpower: Defining the Problem," in *Cyberpower and National Security* (Washington, DC: National Defense University Press, 2009), 33. Kuehl observed that in 2006, both the Navy and the Air Force took steps to improve their cyber capabilities (page 33).
[107] Lt Gen Flynn, interview.
[108] Editorial, *Army Times*, 24 December 2012, 4.

of which must be answered quickly, as the influence of cyberspace is not restricted to the defense of the homeland.[109]

Ensuring Continued Access to Secure Global Commons

The second military priority of the US DOD in the effort of ensuring the security of the nation is both defensive and offensive in nature. On one hand, the US ensured world access to global commons is defensive in nature—its goal is to maintain the access already possessed.[110] In the past, the global commons consisted of portions of sea and air. Today, cyberspace and space, which no single state claims ownership of, are included.[111] These regions of the world facilitate economic trade and prosperity of all the nations of the world, and continued access is critical worldwide.[112] On the other hand, the US requires access to the global commons to continue to project its military influence around the globe. To successfully defend the global commons for all, the US Joint Force must be able to project power into contested areas at will. As Clausewitz identified, the offense is linked to the defense.[113]

Anti-Access/Area Denial (A2AD) capabilities, employed by adversary nations, restrict the US by making it too costly to enter and operate within a specified area. As time goes on, the technology that enables A2AD operations is becoming more prevalent

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[109] Lt Gen Flynn, interview.
[110] Franklin D. Kramer and Larry K. Wentz, "Cyber Influence and International Security," in *Cyberpower and National Security* (Washington, DC: National Defense University Press, 2009), 343. Kramer and Barry noted that nearly 40 percent of the world's information is produced by the US (page 343).
[111] Department of Defense, *CCJO V3.0*, 3. See also, Department of Defense, *The National Military Strategy of the United States of America 2011, Redefining America's Military Leadership* (Washington, DC: Department of Defense, 2011), 3.
[112] Kuehl, "From Cyberspace to Cyberpower," 24.
[113] Clausewitz, *On War*, 358. "But defense has a passive purpose: preservation; and attack a positive one: conquest. The latter increases one's own capacity to wage war; the former does not…If defense is the stronger form of war, yet has a negative object, it follows that it should be used only so long as weakness compels, and be abandoned as soon as we are strong enough to pursue a positive object. When one has used defensive measures successfully, a more favorable balance of strength is usually created; thus, the natural course in war is to begin defensively and end by attacking." (page 358)

and available to less developed adversaries.[114] Although A2AD operations are not restricted to the global commons, it stands to reason that if it is too hazardous to operate near another state's shores or borders, it would be too difficult to support land operations within that state.[115] The greatest A2AD threat today is posed by China.

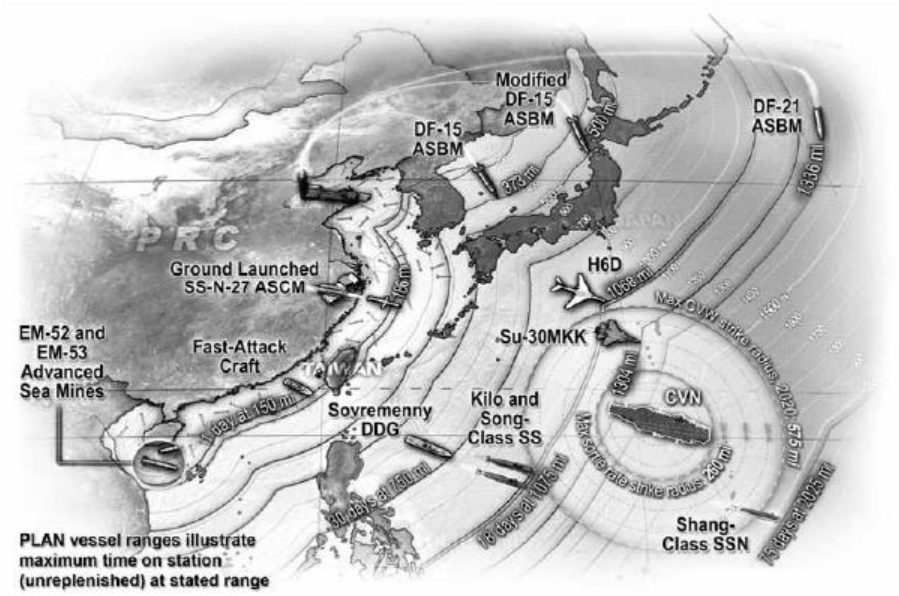

Figure 10: Emerging Chinese Anti-Access/ Area Denial Capabilities

Source: Krepinevich and CSBA, Why AirSea Battle?, 24.

In 2010, the CSBA produced a two-part report highlighting current and future A2AD threats.[116] China served as the headliner of the report based on its ability to present the most capable and multi-layered integrated defense. Depicted in Figure 10, China is expected to begin challenging the Joint Force's ability to project power as far

[114] Department of Defense, *CCJO V3.0*, 4.
[115] Andrew Krepinevich F. and Center for Strategic and Budgetary Assessments, *Why AirSea Battle?* (Washington, DC: Center for Strategic and Budgetary Assessments, 2010), 11.
[116] Krepinevich and CSBA, *Why AirSea Battle?*; See also, Jan van Tol et al., *AirSea Battle: A Point-of-Departure Operational Concept* (Washington, DC: Center for Strategic and Budgetary Assessments, 2010).

away from China's shores as possible.[117] US Joint Forces can expect the first strike in a conflict against China to arrive through cyberspace. As discussed earlier, the US economy and military agencies are highly reliant on computing power to coordinate movements. A pre-emptive Chinese strike, through cyberspace, has the potential to hobble the Joint Force before it has even begun offensive operations.[118]

The second wave of strikes would most likely be against US space based capabilities. The Joint Force has become highly dependent on the Global Positioning System (GPS) for both coordination of timing and navigation to enable its power projection.[119] As of 11 January 2007, China has demonstrated the ability to target and destroy satellites orbiting the globe.[120] Aside from threatening GPS, this ability places at risk essentially all of the Joint Force's command and control capabilities as well as a significant percentage of ISR for the region. As Corpus puts it, the US would be "blinded, muted, and decapitated" in a single move.[121] Of significant note, China could plausibly accomplish all of these efforts well before the Joint Force has even entered the two Island Chains depicted in Figure 11.

Assuming the Joint Forces were able to overcome the cyber and space based attacks and still deploy into the Western Pacific–which most consider challenging to say the least–the US would face additional threats from China.[122] One of the first would be

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[117] Corpus, "America's Acupuncture Points," 1. "A noted Chinese theorist on military warfare, Chang Mengxiong, compared China's form of fighting to 'a Chinese boxer with a keen knowledge of vital body points who can bring an opponent to his knees with a minimum of movements'" (page 1).
[118] Corpus, "America's Acupuncture Points," 1-2. See also, Krepinevich and CSBA, *Why AirSea Battle?*, 13–16.
[119] Corpus, "America's Acupuncture Points," 11-12.
[120] Krepinevich and CSBA, *Why AirSea Battle?*, 15.
[121] Corpus, "America's Acupuncture Points," 12.
[122] Department of Defense, *NMS 2011*, 9. The *NMS 2011* highlighted the need for the current Joint Force to develop the abilities "that enable operations when a common domain is unusable or inaccessible" (page 9).

strikes against regional US installations, as well as any carrier battle groups.[123] The Joint Force can expect to be attacked from several directions all at the same time by China's aggregated force of multiple types of rockets, mines, and artillery pieces, most of which, the current Joint Force lacks the ability to effectively counter. China's final line of defense includes manned systems such as fifth-generation fighter aircraft, long range strike aircraft, a modern submarine force, and an advanced Integrated Air Defense System (IADS).[124] Again, China is betting on its ability to deter further US aggression by making it prohibitively expensive to access the Western Pacific, let alone sustain long term operations within the region.

China, however, is not the only country that presents a risk to the power projection capabilities of the US. Iran has invested heavily in A2AD capabilities including sea mines, small fast boats, anti-ship cruise missiles (ASCMs), submarines, an advanced IADS, and its own complement of ballistic missiles.[125] "Absent offsetting action by the United States, as Iran's A2AD capabilities improve over time it will become

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[123] Krepinevich and CSBA, *Why AirSea Battle?*, 17. "To threaten US access to forward land bases, the People's Liberation Army (PLA) has equipped its 2nd Artillery units opposite Taiwan with roughly 1,100 mobile, short-range ballistic missiles (SRBMs), and has been increasing their numbers at the rate of one hundred per year (page 32). More recent generations of SRBMs boast greater range, enhanced accuracy, and the ability to carry a variety of conventional payloads, including unitary warheads and submunitions (page 33). China is also increasing its medium-range ballistic missiles (MRBMs) (those with a range of 1,000-3,000 km, or roughly 1600-2,000 miles) forces, and improving their guidance systems, with an eye toward holding at risk bases out to the second island chain, where the United States is currently engaged in converting Andersen Air Force base and naval facilities at Guam into a major forward operating base. These missiles are capable of delivering a range of conventional munitions as well as weapons of mass destruction. They may also prove useful in conducting counter-network attacks, for example by using nuclear weapons to generate an electromagnetic pulse" (page 17).

[124] Krepinevich and CSBA, *Why AirSea Battle?*, 19-24.

[125] Krepinevich and CSBA, *Why AirSea Battle?*, 28-35. Iran has an estimated 2,000-3,000 anti-ship mines. Paired with C-801 and C-802 anti-ship missiles, small fast boats are especially difficult to detect and engage. While being highly lethal to US Navy vassals. Iran's Chinese made CSS-N-2 Silkworm enables a 60 mile bubble along the coast of Iran. Iran continues to threaten access to the region with at least three Russian Kilo Class submarines. Iran's IADS consists of Russian systems such as the SA-5, SA-2, and SA-6 presents a formidable threat to US air forces. Reports from 2009 indicated that Iran was trying to add to its current capabilities with the purchase of either an SA-10 or SA-20 battalion. Addition of this capability would greatly increase the IADS lethality. Finally, much of US CENTCOM's bases lay within range of Iran's ballistic missile systems. (pages 28-35).

progressively more difficult for the US military to deploy forces to major bases in the region without incurring a high risk of potentially costly attack from salvoes or Iranian ballistic missiles. Any US naval forces seeking to transit the Strait of Hormuz will confront a hornet's nest of Iranian mines, submarines, torpedoes, anti-ship cruise missiles, and suicide swarm boats, supplemented by land-based strike aircraft and special forces."[126]

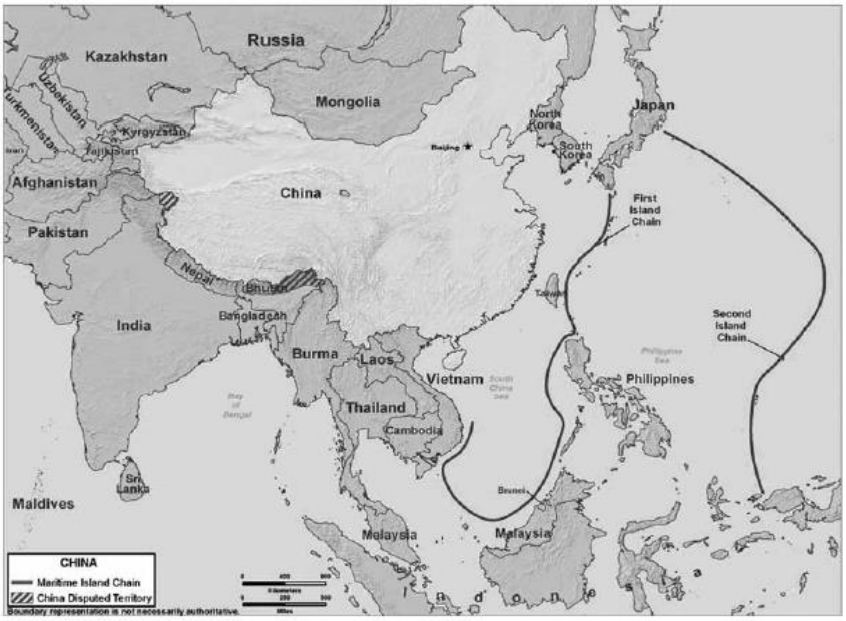

Figure 11: China and the Two Island Chains

Source: Krepinevich and CSBA, Why AirSea Battle, 14.

To ensure the security of the global commons, the DOD must maintain the ability to project power globally.[127] In response to the growing A2AD threats, the DOD began development of a new concept of operations: AirSea Battle. Attempts to develop a new employment doctrine are indicative that the current Joint Operational concepts were not effectively addressing challenges of the strategic environment. AirSea Battle highlights

[126] Krepinevich and CSBA, *Why AirSea Battle?, 35-36.*
[127] Tol et al., *AirSea Battle, ix.*

the requirement for "tight integration of Air Force and Navy operations in the WPTO [Western Pacific Theater of Operation]."[128] Interestingly, this perspective is not shared within the Joint Forces.

First, little to no consideration is paid toward what the Army could bring to this concept. CSBA even identified a significant challenge of the "very large and effectively undefended sites located on a handful of isolated islands, all within range of the People's Liberation Army's (PLA) rapidly growing missile forces and other strike systems," but fails to note that the Army possesses the Air Defense Artillery (ADA) specifically designed to address this threat.[129] Second, the Navy's understanding of AirSea Battle differs significantly from that of the Air Force. In 2011, the Secretary of the Navy, CNO, and Commandant of the Marine Corps spoke at the Marine Corps Command and Staff College. All referred to AirSea Battle as a "Navy problem to solve, which will be addressed through coordination between the Navy and Marines."[130] There was no recognition of any role that the Air Force would play. General Norton Schwartz, then Chief of Staff of the Air Force, later commented to the same student body that AirSea Battle was an Air Force and Navy challenge, and that both bring capabilities to the fight that must be fully integrated to be successful.[131] Again, the rampant parochialism within the current Joint Force is bringing a possible solution to its knees. As General Schwartz

[128] Tol et al., *AirSea Battle*, xiv.
[129] Tol et al., *AirSea Battle*, xi.
[130] Phillip Walker (Lt Col USAF, Marine Corps Command and Staff College student 2011-2012), interview by the author, 4 December 2012.
[131] Lt Col Walker, interview. See also, comments by Gen Norton Schwartz, chief of staff, (address, National Defense University, Fort McNair, DC, 15 December 2010. "This is not about just the Navy and the Air Force – or about just the US military alone, for that matter – but about full-spectrum access and freedom of action to enable our Nation's collective, multi-dimensional ability to pursue and promote our vital interests around the world" (page 3)

identified, to succeed in this mission, the Joint Force must execute "more disciplined spending, efficiency, innovation, and inter-service integration and interoperability."[132]

Effectively Fight and Win Future Conflicts

The final military priority to ensuring the security of the nation is interlinked with the first two. The US assumes it will fight future wars overseas. Aside from the Revolutionary and Civil War, the US has traditionally taken its combat forces to the enemy. However, as highlighted earlier, the ability to project power globally is reliant on continued access to the global commons. The US must maintain the ability to move personnel and equipment through the air and maritime commons, all of which are supported by capabilities that exist within cyberspace and space.

Additionally, the Joint Force must possess the ability to respond to a broad range of contingency operations. Ranging from small units providing Foreign Internal Defense (FID) training, through irregular warfare, and up to a nuclear exchange, the US military must be ready to address it all.[133] Added to this is the challenge to respond more quickly. The *CCJO version 3.0* of 2005 highlights that "Tomorrow's Joint Forces must be prepared to deal with all these challenges, anywhere in the world, potentially on short notice and for an indeterminate duration, in response to unexpected events."[134] All of this cannot be accomplished if the Joint Force is unable to overcome the current and developing A2AD threats.

Past solutions to this challenge have entailed the combination of capabilities, what is now considered Joint Operations. That perspective has not changed, and as shown above, with an average rating of a "C" in the ability to develop effective joint Concept of

[132] Gen Schwartz, address, 4.
[133] Department of Defense, *CCJO V3.0*, 8.
[134] Department of Defense, *CCJO V3.0*, 11-12.

Operations (CONOPS), there should be significant consternation over the plans currently on the books. The understanding that synergistic advantages are gained by integrating joint capabilities is just as valid today as it was several years ago.[135] However, the Joint Force must be able to better integrate into the future to counter efforts to block US power projection.

"The essence of Joint Operations is not only to match each Service to its proper situation so that it contributes most effectively to success, but *also to combine Service capabilities such that each enhances the effectiveness and compensates for the vulnerabilities of the others"* (emphasis added).[136] To date, the Joint Force has focus on the former; as discussed earlier, the GNA was able to legislate this action. Matching services to specific situations was codified within the *de jure*. The combining of service capabilities is dependent on the *de facto,* which this analysis of the Joint Force shows is still lagging. The weakest areas of the Joint Force are those governed primarily by de facto attitudes, however, as the discussion above indicates, and *CCJO version 3.0* urges, the Joint Force must "think in terms of the performance of joint functions–maneuver, fires, intelligence, command and control, force protection, logistics–independent of a specific Service or domain," to successfully address future threats.[137] Similarly, *Joint Vision 2020* calls for the focus on "interdependent application of dominant maneuver,

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[135] "This is the point: the air situation has no importance in any form of war except in so far as it affects the situation on the ground, and the operations of those arms of the air force who are engaged against hostile objectives upon the ground—whether by direct attack or by indirect action in the form of reconnaissance and observation." John Cotesworth Slessor, *Air Power and Armies* (Tuscaloosa, AL: University of Alabama Press, 2009), 7; "Now there are five circumstances in which victory may be predicted: He who knows when he can fight and when he cannot will be victorious. He who understands how to use both large and small forces will be victorious. He whose ranks are united in purpose will be victorious. He who is prudent and lies in wait for an enemy who is not, will be victorious." Tzu and Griffith, *The Illustrated Art of War, 123-124*.

[136] Department of Defense, *CCJO V3.0*, 24.

[137] Department of Defense, *CCJO V3.0*, 24.

precision engagement, focused logistics, and full dimensional protection," again, calling for the need to place institutionalism aside and face challenges in a unified manner.[138] Finally, the 2011 National Military Strategy (NMS) identified that "defeating these strategies will require Joint Force doctrine to better integrate core military competencies across all domains and account for geographic considerations and constraints. These core military competencies include complementary, multi-domain power projection, joint forcible entry, the ability to maintain joint assured access to the global commons and cyberspace should they become contested, and the ability to fight and win against adversaries."[139]

At the end of the day, based on Locher's assessment, the Joint Force would have an overall Grade Point Average of B to B-, which means the DOD is doing roughly 80 percent of what the nation expects of it effectively.[140] On the face of it, this sounds pretty good. However, added to that is the expected operational environment. Taken in aggregate, recent documents released from the Joint Staff and Chiefs of Staff have continually hammered the same message: the Joint Force faces significant challenges in the near and long term and the DOD must become better at what it does to counter these threats.

In other words, the best the Joint Force can now produce through the current paradigm is known to fall short. Kuhn would say that the current theory has too many holes, and leaves too many questions unanswered.[141] Constant would say that science is

[138] United States Joint Chiefs of Staff, *Joint Vision 2020* (Washington, DC: Joint Chiefs of Staff, 2000), 3.
[139] Department of Defense, *NMS 2011*, 8–9.
[140] I used a standard 4.00 GPA scale to calculate an average GPA using Locher's grades of B-, A, A, A, C, D, and C+. The average GPA was 2.85.
[141] Kuhn, *The Structure of Scientific Revolutions*, 67.

indicating failure of the known technology to perform in the future environment.[142] Rosen that the strategic environment indicates changes; while similarly, Posen would say it was a shift in the perceived balance of power necessitating innovation within the DOD.[143] All indications scream that the current paradigm is inadequate, that the model used in the past is and will continue to be hampered by a *de facto* characterized by service parochialism. Failure to change will risk the nation's continued ability to project power globally, which in the end risks the security of the nation.

But all is not lost. The theorists above identify a solution. Be it a new paradigm, theory, innovation, or technology, the option of another way must also exist for a change to happen. The core concepts contained within current understandings of Joint Operations have served a valuable purpose and can be built upon. They have enabled the DOD to become more of the Joint Force as envisioned by the GNA. However, the stagnant *de facto* continues to hold the DOD back from attaining its full abilities. To effectively address the threats of the future the DOD as a whole must evolve beyond the current paradigm. As General Flynn put it: "We must change the way we think about the problem."[144] To initiate this process, General Martin E. Dempsey, Chairman of the Joint Chiefs of Staff, published the *Joint Operational Access Concept (JOAC) 2012*. Followed by the *Capstone Concept for Joint Operations: Joint Force 2020*, the *JOAC 2012* proposes the next evolutionary phase of inter-service operations in the form of Globally Integrated Operations supported by Cross-Domain Synergy.

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[142] Constant, *The Origins of the Turbojet Revolution*, 15.
[143] Stephen Peter Rosen, *Winning the Next War: Innovation and the Modern Military* (Ithaca, NY: Cornell University Press, 1991), 251. See also, Barry Posen, *The Sources of Military Doctrine: France, Britain, and Germany Between the World Wars* (Ithaca, NY: Cornell University Press, 1984), 59.
[144] Lt Gen Flynn, interview.

Chapter 3

Globally Integrated Operations: A New Paradigm?

> *The strategic challenge is clear: the Joint Force must maintain the freedom of action to accomplish any assigned mission. The Joint Operational Access Concept is a critical first step in ensuring the Joint Force has the requisite capabilities to do so.*
>
> General Martin E. Dempsey

> *Our nation and Armed Forces are transitioning from over a decade of war to a future that presents us with a security paradox. While the world is trending toward great stability overall, destructive technologies are available to a wider and more disparate range of adversaries. As a result, the world is potentially more dangerous than ever before. New concepts of operation are needed to address the security paradox we face.*
>
> General Martin E. Dempsey

With the words above, General Martin Dempsey initiated the most recent evolution of inter-service operations, publishing the *Joint Operational Access Concept* (*JOAC 2012*) and *Capstone Concept for Joint Operations: Joint Force 2020* (*Joint Force 2020*). Together these documents represent a new paradigm intended to evolve the Joint Force toward a greater degree of integration; and which, if properly followed, will enable the DOD to more effectively address future security challenges while also responding to the requirement to operate on a smaller budget. The *JOAC 2012* and *Joint Force 2020*, however, are not complete concepts and, as such, often produce more questions than answers. However, they are not meant to be the answer, but rather to point to the desired objective.[1] The *JOAC 2012* and *Joint Force 2020* sketch a rough concept of what the future Joint Force should look like, but leave a lot of the how to get to that state open to interpretation.

[1] Lt Gen George Flynn, "Capstone Concept for Joint Operations: Joint Force 2020" (lecture, Air War College, Maxwell AFB, AL, 14 November 2012).

This chapter examines the elements of the new paradigm as presented in the *JOAC 2012* and *Joint Force 2020* and the core ideas behind Globally Integrated Operations (GIO) and Cross-Domain Synergy. Moreover, I show that interweaving concepts from Cross-Domain Integration effectively mitigates the identified risks and concerns of implementing GIO. Ultimately, Cross-Domain Integration calls for changes in the *de facto* of the services that would enable the application of joint capabilities across all domains towards a common objective. The end product is a more complete and survivable paradigm of future Joint Operations for consideration. Key to its success is its ability to move the services beyond their institutional barriers and into an environment that truly values the advantages gained through a capabilities-based approach to inter-service operations.

Before taking a deep dive into the *JOAC 2012* and *Joint Force 2020*, it is important to have an understanding of the concepts central to both documents. Identified as the overarching concept that is critical to ensuring the Joint Force's ability to project power into contested areas in the future is the concept of Globally Integrated Operations.[2] The *Joint Force 2020* defines GIO as a "globally postured Joint Force that quickly combine capabilities with itself and mission partners across domains, echelons, geographic boundaries, and organizational affiliations."[3] Rather than building many enduring Task Forces, GIO focuses on "forces and partners that will form, evolve, dissolve, and reform in different arrangements in time and space with significantly greater fluidity than today's Joint Force."[4]

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[2] Joint Chiefs of Staff, *Capstone Concept for Joint Operations: Joint Force 2020* (Washington, DC: Department of Defense, 2012),4.
[3] Joint Chiefs of Staff, *Joint Force 2020*, 4.
[4] Joint Chiefs of Staff, *Joint Force 2020*, 4. See also Lt Gen Flynn, "Joint Force 2020."

GIO is particularly enabled by the realization of Cross-Domain Synergy.[5] Defined as "the complementary vice merely additive employment of capabilities in different domains such that each enhances the effectiveness and compensates for the vulnerabilities of the others—to establish superiority in some combination of domains that will provide the freedom of action required by the mission," Cross-Domain Synergy directs the integration of the forces of the Army, Navy, Marines, and Air Force toward a common objective.[6] While GIO recognizes the difference between supremacy and superiority and that any degree of control of a domain is often limited to a local area for a temporary period of time, GIO is reluctant to break away from the current *de facto*; it attempts to apply the traditional *service forces* of the DOD rather than approaching security challenges from a *joint capabilities* perspective.[7]

Cross-Domain Integration is currently an unofficial concept, that to date has no formal definition. Currently, the concepts exist within the academic world and are being taught for consideration within the Cross-Domain Operators Elective of the USAF ACSC. For the purposes of this discussion, Cross-Domain Integration is defined as the interdependent access or transfer of asymmetric capabilities between two or more domains that enhances effectiveness in achieving freedom of action to gain a marked advantage required by the mission.[8] Cross-Domain Integration focuses on combining

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[5] Joint Chiefs of Staff, *Joint Force 2020*, 7. Lt Gen Flynn further supported this relationship. George Flynn (Lt Gen USMC, Joint Staff J7 Director), interview by the author, 15 November 2012.
[6] Joint Chiefs of Staff, *Joint Force 2020*, 14.
[7] Joint Chiefs of Staff, *Joint Force 2020*, 15-16. Superiority is defined as a "degree of dominance of one force over another in a domain that permits the conduct of operations by the former at a given time and place without prohibitive interference by the latter." It differentiates that from supremacy, "which is the degree of superiority in a domain wherein the opposing force is incapable of effective interference." Quoted by, Gen Marin E. Dempsey, United States Joint Chiefs of Staff, and United States Department of Defense, *Joint Operational Access Concept (JOAC)* (Washington, DC: Department of Defense, 2012), 15.
[8] This definition was the result of a combination of related definitions from information assurance processes and the Air Command and Staff College Cross-Domain Operators Elective working definition

capabilities of weapon systems and personnel from the beginning of an operation to gain asymmetric advantages that attain command of a given domain. Reminiscent of maritime theorist Sir Julian Corbett's theory of command of the sea, Cross-Domain Integration recognizes that control of a domain is often limited in range and time.[9] While territory can be supreme controlled—walls erected, trespassers identified, and adversaries restricted access—the other domains tend to exist primarily in a state of contested command.[10] Cross-Domain Integration, like Cross-Domain Synergy, takes advantage of the command of one domain to gain command in other domains. However, Cross-Domain Integration differs in that it looks to execute operations in parallel as much as possible, to take advantage of overwhelming an adversary's defenses. So rather than focusing solely on one domain at a time, multiple domains are targeted in an effort to rapidly overwhelm the adversary's ability to effectively defend itself. This is only feasible if indirect methods are paired with traditional means, or, as Sun Tzu put it: "Generally, in battle, use the normal force to engage; use the extraordinary to win."[11] Attacking consolidated targets from multiple directions and through multiple domains increases the possibility of success, offsets weaknesses in one domain, and makes it exponentially more difficult for the defender.[12] Finally, like Cross-Domain Synergy,

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which was developed based on the *JOAC*'s description of Cross-Domain synergy: the interdependent exploitation of asymmetrical advantage across the domains to enhance effectiveness in achieving the freedom of action and superiority required by the mission.

[9] Julian Stafford Corbett, *Some Principles of Maritime Strategy* (Annapolis, MD: Naval Institute Press, 1988), 91.

[10] Corbett, *Some Principles of Maritime Strategy*, 93.

[11] Sun Tzu, *The Illustrated Art of War*, ed. Samuel B Griffith (New York: Oxford University Press, 2005), 137.

[12] "The musical notes are only five in number but their melodies are so numerous that one cannot hear them all. The primary colors are only five in number but their combinations are so infinite that one cannot visualize them all. The flavors are only five in number but their blends are so various that one cannot taste them all. In battle there are only the normal and extraordinary forces, but their combinations are limitless; none can comprehend them all. For these two forces are mutually reproductive; their interaction as endless

Cross-Domain Integration represents a new concept to enhance existing inter-service operations. It does not seek to replace Joint Operations, only do more, more efficiently, with what we have, by focusing on the application of joint capabilities.

One final definition critical to this discussion is that of a domain. In 2009, cyberspace experts, Patrick Allen and Dennis Gilbert, recommended a doctrinal definition of domain for use by NATO and the US DOD. They defined a domain as "the sphere of interest and influence in which activities, functions, and operations are undertaken to accomplish missions and exercise control over an opponent in order to achieve desired effects."[13] Furthermore, they argued that in order to be considered a valid domain, six features must to be present: 1) unique capabilities must be required to operate in that domain; 2) a domain cannot be fully encompassed by any other domain; 3) a shared presence of friendly and opposing capabilities may exist within the domain; 4) control can be gained and exerted over a domain; 5) a domain provides the opportunity for synergy with other domains; 6) a domain provides the opportunity for asymmetric actions across domains.[14] Based on this definition, the DOD currently recognizes five domains: Air, Land, Sea, Space, and Cyberspace.[15] This also sets the boundaries that Cross-Domain Synergy and Cross-Domain Integration look to traverse to gain asymmetric and synergistic advantages.

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as that of interlocked rings. Who can determine where one ends and the other begins?" Sun Tzu, *The Illustrated Art of War*, 137–138.

[13] Patrick Allen and Dennis Gilbert, "The Information Sphere Domain Increasing Understanding and Cooperation," *The Virtual Battlefield: Perspectives on Cyber Warfare*, Cryptology and Information Security Series (2009): 133.

[14] Allen and Gilbert, "The Information Sphere," 134.

[15] The DOD definition of full-spectrum superiority provides the ability to infer the five domains—"The cumulative effect of dominance in the air, land, maritime, and space domains and information environment (which includes cyberspace) that permits the conduct of joint operations without effective opposition or prohibitive interference." United States Joint Staff, "DOD Dictionary of Military Terms," Department of Defense, http://www.dtic.mil/doctrine/dod_dictionary/data/f/18759.html (accessed 17 January 2013). See also, Daniel T. Kuehl, "From Cyberspace to Cyberpower: Defining the Problem," in *Cyberpower and National Security* (Washington, DC: National Defense University Press, 2009), 25.

Figure 12: Elements of Globally Integrated Operations

Source: Joint Chiefs of Staff, Joint Force 2020, 4.

Published in September 2012, *Joint Force 2020* decidedly places the future of Joint Operations in the context of Globally Integrated Operations. GIO is identified as the means to make the Joint Force more capable of addressing future security challenges, both internal and abroad. However, its eight key elements, depicted in Figure 12, are highly reliant on the use of technology to force unity of effort, but do little to address the issue of an enduring parochialism that continues to plague the Joint Force.[16] Additionally, the risks and concerns expressed should the *JOAC 2012* and *Joint Force 2020* be implemented indicate a hesitancy to commit to the central propositions of GIO and further demonstrate the failings of the current *de facto*. Ideas contained within the concept of Cross-Domain Integration help complete the overall perspective presented through GIO by offering means to mitigate the voiced concerns and risks.

[16] Joint Chiefs of Staff, *Joint Force 2020*, 4.

Element 1: Mission Command

One of the primary requirements of GIO is that the execution of the integration process of available forces be pushed to lower levels.[17] This is accomplished through the delegation of mission command to commanders at lower levels. "Mission command is not a mechanical process that the commander follows blindly. Instead, it is a continual cognitive effort to understand, to adapt, and to direct effectively the achievement of intent."[18] Reminiscent of Moltke's dictums, by understanding the intent of the mission, commanders below the Joint Force Commander (JFC) are expected to gather together the forces needed to continue advancing toward their mission objective.[19]

This, however, is the rub. Addressed to "Combatant Commands, Joint Task Forces, and Subordinate Commands," the *JOAC 2012* identifies in its scope the degree to which *lower level commanders* speaks.[20] The *JOAC 2012*, however, expresses the desire to push command authorities to lower levels, by empowering "commanders at every echelon," especially in the coordination of joint fires within all five domains.[21] But it is uncertain as to "the precise level to which that control can appropriately devolve."[22] Key to this element successfully supporting GIO is the authority to apportion forces that commanders at lower levels possess.

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[17] Lt Gen Flynn, interview.
[18] Gen Marine E. Dempsey and United States Joint Chiefs of Staff, *Mission Command*, White Paper (Washington, DC: Joint Chiefs of Staff, 2012), 4–5.
[19] "As a rule, battle is the normal consequence of the deployment. The last march orders usually take the place of previous battle dispositions. Given the current extended battlefield, a unified command of an army on the day of battle is possible only in a very general way. Commanders of army corps and even divisions must judge the situation for themselves and must know how to act independently in consonance with the general intention." Helmuth von Moltke, *Moltke on the Art of War: Selected Writings*, ed. Daniel J Hughes (Novato, CA: Presidio Press, 1995), 130–131.
[20] Joint Chiefs of Staff, *Joint Force 2020*, 3.
[21] Joint Chiefs of Staff, *Joint Force 2020*, 30.
[22] Joint Chiefs of Staff, *Joint Force 2020*, 30.

According to current doctrine, a commander can be delegated Operational Control (OPCON) authority to organize apportioned forces as required to accomplish a designated mission.[23] Commanders designated with OPCON represent the lowest command level, in accordance with current doctrine, at which forces can be reorganized in the fashion reflective of that discussed in the *JOAC 2012* and *Joint Force 2020*. Doctrine does already support this concept, but only to a point. OPCON and even Combatant Command authority (COCOM) is reliant on the forces apportioned to the commander.[24] In other words, a commander must make the best use of the assets at

[23] Joint Publication JP 1, *Doctrine for the Armed Forces of the United States*, 2007, IV-8. Tactical Control (TACON) authority does not permit a commander to reorganize force apportioned in a manner reflective of the *Joint Force 2020* and *JOAC 2012* (page IV-9). JP 1 defines OPCON as, "Command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in combatant command (command authority) and may be delegated within the command. Operational control is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command….Operational control normally provides full authority to organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions; it does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training" (page GL-9). JP 1 defines TACON as, "Command authority over assigned or attached forces or commands, or military capability or forces made available for tasking, that is limited to the detailed direction and control of movements or maneuvers within the operational area necessary to accomplish missions or tasks assigned. Tactical control is inherent in operational control. Tactical control may be delegated to, and exercised at any level at or below the level of combatant command. Tactical control provides sufficient authority for controlling and directing the application of force or tactical use of combat support assets within the assigned mission or task" (page GL-10).

[24] JP 1 defines COCOM as, "Nontransferable command authority established by title 10 ("Armed Forces"), United States Code, section 164, exercised only by commanders of unified or specified combatant commands unless otherwise directed by the President or the Secretary of Defense. Combatant command (command I authority) cannot be delegated and is the authority of a combatant commander to perform those functions of command over assigned forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction over all aspects of military operations, joint training, and logistics necessary to accomplish the missions assigned to the command. Combatant command (command authority) should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and Service and/or functional component commanders. Combatant command (command authority) provides full authority to organize and employ commands and forces as the combatant commander considers necessary to accomplish assigned missions." JP 1, *Doctrine of the Armed Forces,* GL-5.

his/her disposal. If specific assets are not made available, the plan developed can not make use of them; commanders must work within their means.[25]

Cross-Domain Integration provides a possible solution to this challenge; by properly educating military personnel at all levels, an understanding of the capabilities offered by various assets is gained throughout the Joint Force. While the Combatant Commander, the primary warfighter for a given conflict, holds the authority to apportion forces to lower echelon commanders, the CCDR should comprehend the need to provide subordinate commands with well-rounded capabilities able to address the assigned mission across all domains.[26] Similarly, subordinate commanders must understand the various capabilities apportioned to a task force so that those capabilities can be most effectively distributed across domains for maximum effect. Additionally, if a capability is not apportioned, subordinate commanders should be able to request additional support from up their chain of command.[27]

Four concerns expressed in the *JOAC 2012* and *Joint Force 2020* identify perceived risks in the successful execution of mission command as described above; attacks against communication links expected in the future security environment generate concerns over the ability to maintain coordination efforts among geographically separated units, over decentralization, and time wasted in search of precise disruption

[25] Sir Julian Corbett provides an example in his comparison of navies built around battleships or cruisers. Corbett identifies the purpose of battleships as preventing the adversary from interfering with the work of the cruisers, and the cruisers as the primary players in exercising control of the sea. Corbett argued that both capabilities are needed to have a fully capable force, that focusing on one would force the navy into a limited style of maritime warfare. Corbett, *Some Principles of Maritime Strategy*, 113–115.
[26] This comment is not intended as an attack against current CCDRs—that they do not currently understand this—rather it is meant to highlight the need to promote such a mindset in the future.
[27] The ability to request additional support from a superior commander is part of the concept of Globally Integrated Operations. Lt Gen Flynn, interview.

mechanisms that could never be found.[28] These concerns can be consolidated into two primary concerns. First, that the expected operational environment, as described by the *JOE 2010*, will make coordination between commands challenging due to cyber and space attacks against communication nodes. Second, by becoming more diffuse, the Joint Force will lose its unity of effort. Both of these concerns are indicative of today's *de facto* attitudes and demonstrate a general, even typical, hesitancy to commit to a new paradigm. They also show a disregard for the established *de jure* and the need to retain the best practices of Joint Doctrine, while seeking a means to improve its application.

First, a significant part of the *Joint Force 2020*'s concept of mission command is the ability for lower echelon commanders to have the ability to reach back through technological means to "allow distributed commanders and staffs to collaborate as though co-located."[29] This is more representative of tactics, techniques, and procedures (TTP) specific to combat operations in OEF and OIF. The relatively low intensity of combat operations in the most recent conflicts has conditioned higher-level commanders to be able to reach down to lower echelons and be more directive than descriptive in their commands.

German Field Marshal Helmuth Graf von Moltke was one of the first military strategists to recognize the capabilities and limitations offered through the employment of the telegraph. To Moltke, the telegraph revolutionized modern warfare, stating that it

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[28] "Communications required by this concept may be unavailable." Joint Chiefs of Staff, *Joint Force 2020,* 14; See also, Dempsey, Joint Chiefs of Staff, Department of Defense, *JOAC 2012*. "Joint Forces may not be able to achieve the necessary coordination required to apply combat power effectively across domains, again negating the concept's central premise" (page 36). "The concept's conditional preference for disruption could lead commanders and staff to waste valuable time and energy in search of precise disruption mechanisms even when the nature of the enemy or the conditions of warfare preclude such a diagnosis" (page 37).

[29] Joint Chiefs of Staff, *Joint Force 2020,* 5.

"substantially assists the high command in making estimates of the military situation."[30][31] However, he recognized a threat within the advantages of the telegraph. "But the most unfortunate of all supreme commanders is the one who is under close supervision, who has to give an account of his plans and intentions every hour of every day. This supervision may be exercised through a delegate of the highest authority at his headquarter or a telegraph wire attached to his back."[32]

Although Moltke is specifically talking about a supreme commander having to answer to a nation's political leadership, the concept relates just as well to subordinate commanders answering to military leadership in their chain of command. The net result is micromanagement and stagnation of initiative. Digging deeper into Moltke's dictums provides a desirable solution: "Because of the diversity and the rapid changes in the situations in war, it is impossible to lay down binding rules. Only principles and general points of view can furnish a guide. Prearranged designs (Schema) collapse, and only a proper estimate of the situation can show the commander the correct way. The advantage of the situation will never be fully utilized if subordinate commanders wait for orders. Only if leaders of all ranks are competent for and accustomed to independent action will the possibility exist of moving large masses with ease. The absence of these characteristics inevitably leads to loss of time."[33]

Moltke's insight sounds very familiar to the modern military professional; his views reflect the current *de jure*. Current doctrine directs commanders to communicate mission objectives to subordinates, and with that, should come the resources they need to

[30] Von Moltke, *Moltke on the Art of War*, 113.
[31] Von Moltke, *Moltke on the Art of War*, 113.
[32] Von Moltke, *Moltke on the Art of War*, 77.
[33] Von Moltke, *Moltke on the Art of War*, 132-133.

accomplish that mission. Additionally, commanders identify constraints and restraints that dictate the boundary of actions for a subordinate.[34] Constraints and restraints both serve to restrict the freedom of action of a subordinate command. The challenge is that too heavy a hand can leave no room for initiative and force single mindedness.

The nineteenth century strategist, however, understood something that we are currently overlooking. To be able to accomplish the intent of the Combatant Commander requires a specific *de facto*; trust. As General Flynn put it, "I know my subordinates are going to do everything within their power to meet the intent of my commands, it's what they are trained to do."[35] Moltke qualifies his comments on the independence of subordinates immediately by stating: "In time of peace, the habit of acting in accordance with correct principles can be learned only if every officer is allowed the greatest possible independence. In that case, the practical intelligence of subordinate commanders will understand how to act in war according to the wishes of the superior commander, even when the latter cannot expressly state his will because of time and conditions."[36]

If the future Joint Force is going to rely on lower echelon commanders to employ mission command concepts, it must also promote the concept in practice. It must shift its *de facto*. Subordinate commands must be granted the opportunity to develop the trust required by demonstrating the ability to execute a mission as expected without specified tasks. When commanders at lower echelons have an understanding of the intent of their

[34] Joint Doctrine defines constraints as, "In the context of joint operation planning, a requirement placed on the command by a higher command that dictates an action, thus restricting freedom of action." Joint Publication JP 5-0, *Joint Operation Planning*, 2011, GL-7. Restraints are defined as, "In the context of joint operations, a requirement placed on the command by a higher command that prohibits an action, thus restricting freedom of action." JP 5-0, *Joint Operation Planning*, GL-14.
[35] Lt Gen Flynn, interview.
[36] Von Moltke, *Moltke on the Art of War*, 133.

mission objective and the effect that they are to provide in support of the larger task force, a loss of reach back to the JTF/CC or CCDR is of little concern.[37]

This is the essence of mission command, and if executed as designed, it negates the need for subordinate commanders to continually check with their superiors on what tasks they should accomplish next. Their tasks are prescribed by a complete understanding of their commander's intent. As General Flynn put it, "we expect our company and platoon commanders to understand the intent of their mission and to continue to pursue their objectives no matter what the obstacles faced. It's part of being a commander."[38] A solution to the second concern—becoming overly decentralized—is closely related and is already at hand.

The second concern is addressed by adherence to the doctrine of centralized control and decentralized execution.[39] As stated earlier, the lead warfighter in a given conflict is the Combatant Commander. With a strategic perspective, this is also the level at which experts from all services and agencies converge to enable the development of an integrated holistic theater plan. It is the CCDR's responsibility to develop the various lines of effort or operation, apportion forces, and articulate intent to subordinate commanders for decentralized execution. Lower echelon commanders must not develop individual plans of action based on their own narrowly construed perspective of the combat environment. If allowed to do so, then yes, the risk is high that the overall campaign will self-destruct as efforts of individual task forces fail to be synchronized and unity of effort fails to be achieved. But this concern runs counter to the established *de*

[37] Von Moltke, *Moltke on the Art of War*, 131-132.
[38] Lt Gen Flynn, interview.
[39] "Commander's intent, mission type orders and decentralized execution are not new concepts. They are a part of current joint and service doctrine." Dempsey and Joint Chiefs of Staff, *Mission Command*, 3.

jure. Why would it be a concern if our Joint Doctrine addresses it? These concerns again indicate the predominant *de facto*—the tension between the services—and the drag it creates on the system through attitudes of institutionalism. However, with all subordinate commanders working off of a centrally integrated and strategically developed plan, unity of effort becomes assured which will further enable the Joint Force.

Element 2: Seize, retain and exploit the initiative

The second element of GIO is the ability of Joint Forces to "seize, retain and exploit the initiative in time and across domains."[40] The objective is for the future Joint Force to effectively dictate the pace of future operations.[41] It further implies that the way to accomplish this objective is for future Joint Forces to be able to make operational decisions at a faster pace than the adversary can.[42] This idea is directly responsive to the goals expressed in the 2005 *CCJO v2.0*, which place the ability to "conduct integrated, tempo-controlling actions in multiple domains" at the center of future Joint Force capabilities.[43] Furthermore, through a more complete understanding of the environment, the adversary, and the specifics of the situation, Joint Force commanders can more quickly move through the "observe, orient, decide, and act" (OODA) cycle.[44]

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[40] Joint Chiefs of Staff, *Joint Force 2020*, 5.
[41] Joint Chiefs of Staff, *Joint Force 2020*, 5.
[42] Joint Chiefs of Staff, *Joint Force 2020*, 5. The *Joint Force 2020* highlights the need that "operational campaign design must enable us to decide and direct faster than our adversaries," (page 5). Lt Gen Flynn also highlighted the need to act faster than the enemy in order to place our adversaries at a disadvantage. Lt Gen Flynn, "Joint Force 2020."
[43] Joint Staff, *Capstone Concept for Joint Operations, Version 2.0* (Washington, DC: Ft. Belvoir: Defense Technical Information Center, 2005), 11.
[44] Lt Gen Flynn, "Joint Force 2020." See also: Frans P. B. Osinga, *Science, Strategy and War: The Strategic Theory of John Boyd* (New York: Routledge, 2007). The OODA loop is commonly understood to be a decision cycle. An individual or organization observes the environment around them, orients themselves to that environment, makes a decision on an action to take, and takes an action. The cycle then begins again by observing what affect that action had on the environment. The common interpretation suggests that "war depends on the ability to out-pace and out-think the opponent, or put differently, on the ability to go through the OODA cycle more rapidly than the opponent (page 1). Osinga however argued that Boyd believed there was more involved than just rapid decision making. "It is not absolute speed that

The primary concern expressed in response to this element of GIO is that the already difficult challenge of gaining and then maintaining access to contested environments becomes significantly more risky as commanders are driven to make decisions at increasingly faster rates.[45] The risk in terms of loss of life and equipment could become prohibitive to the Joint Force's continuing operations within a contested environment. Although generally the risk relates more to the lineages between military and political objectives, as stated, it is a concern over "recognizing and exploiting or creating opportunities inside of an adversary's decision cycle."[46] This again is indicative of the need to OODA faster than an adversary can. As before, this represents a narrow perspective focused on direct approaches, rather than on employing joint capabilities in an integrated manner across all domains.

As identified by author Commodore Frans P.B. Osinga, in his examination of John Boyd's theories, the intent is not to OODA faster than your adversary can. Eventually, all processes reach a maximum processing speed, beyond which decisions are being made so quickly that mistakes are made; the very concern expressed above.[47] Boyd's theory is really about actions that can disrupt and degrade the adversary's ability to OODA as quickly as the Joint Force is able to.[48] "The narrow interpretation of the OODA loop also de-emphasizes another essential feature of Boyd's theory: *developing, maintaining and reshaping one's orientation*, the box around which the loop graphically

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counts; it is the relative tempo or a variety in rhythm that counts. Changing OODA speed becomes part of denying a pattern to be recognized…Boyd instead argues that the aim is to create and perpetuate a highly fluid and menacing state of affairs for the enemy, and to disrupt or incapacitate his ability to adapt to such an environment" (page 236).

[45] Dempsey, Joint Chiefs of Staff, and Department of Defense, *JOAC 2012*, 38.

[46] Dempsey, Joint Chiefs of Staff, and Department of Defense, *JOAC 2012*, 38.

[47] Frans P.B. Osinga, "John Boyd" (lecture, School of Advanced Air and Space Studies, Maxwell AFB, AL, 30 August 2012).

[48] Osinga, "John Boyd," lecture.

revolves. Speed, brave decisions and heroic actions are pointless if the observation was inaccurate because of our inadequate orientation. Orientation shapes the way we interact with the environment (emphasis in original)."[49]

By inducing erroneous data through cyberspace or space-based systems, injecting confusion by kinetically striking critical command and control (C2) nodes, or presenting an expected force posture to the enemy while actually striking through indirect avenues, the Joint Force can cause delays in the observation and orientation phases of the adversary's OODA loop.[50] As military historian Martin Van Creveld argued, orientation on bad observations creates poor or delayed decisions and actions, which creates further delays in the adversary's actions as he then attempts to determine what happened and why specific actions did not induce the expected results.[51] "Everything else being equal, a larger and more complex task will demand more information to carry it out. Conversely, when information is insufficient (or when it is not available on time, or when it is superabundant, or when it is wrong, all of which can be expressed in quantitative terms), a fall in the level of performance will automatically ensue. The history of command can thus be understood in terms of the ability of command systems to meet it. That race is eternal; it takes place within every military (and, indeed, nonmilitary) organization, at all levels and at all times."[52]

By consolidating Joint Force assets at the Combatant Command level, future commanders can more effectively apply available capabilities toward controlling the

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[49] Osinga, *Science, Strategy and War*, 236.
[50] David P. Fidler, "Inter Arma Silent Leges Redux? the Law of Armed Conflict and Cyber Conflict," in *Cyberspace and National Security* (Washington, DC: Georgetown University Press, 2012), 79. Fidler noted the ability of the Stuxnet worm to cause physical damage that delayed Iran's progress toward a nuclear weapon.
[51] Osinga, "John Boyd," lecture.
[52] Martin van Creveld, *Command in War* (Cambridge, MA: Harvard University Press, 1985), 265.

tempo of operations. Sun Tzu argued that wise commanders will "avoid the enemy when his spirit is keen and attack him when it is sluggish and his soldiers homesick."[53] He called this control of the moral factor. Clausewitz echoed this argument saying: "because time can possess significance as a result of factors that derive from but are not identical with it. Indeed, it must be significant for one opponent or the other…The rule, then, that we have tried to develop is this: all force intended and available for a strategic purpose should be applied *simultaneously*; their employment will be the more effective the more everything can be concentrated a single action at a single moment (emphasis in original)."[54]

Rather than continually speeding up the rate at which commanders OODA, but by restricting the speed at which the adversary can make decisions, the Joint Force can gain control of the pace of an operation. As the old adage goes, a man does not have to be able to outrun an angry bear in the forest, he just has to be able to outrun the man next to him. To add another wrinkle to that, if it is possible to kick the other man in the knee and make him stumble, it will be much easier to out run him. An integrated application of capabilities across all domains can effectively kick the adversary in the knee and enable the Joint Force to more effectively dictate the pace of future operations.

Element 3: Global Agility

The *Joint Force 2020* identifies the third element of GIO as the ability of future Joint Forces to be globally agile. The ability to rapidly construct, employ, and then

[53] Tzu, *The Illustrated Art of War*, 166.
[54] Carl von Clausewitz, *On War*, ed. Bernard Brodie, Michael Howard, and Peter Paret (Princeton, NJ: Princeton University Press, 1984), 209. Here Clausewitz is arguing more against extended military operations. He urged commanders to focus their efforts against Centers of Gravity, concentrating efforts in a simultaneous attack so that the military force would not be weakened over an extended campaign. But his comments have application here in that he also believed that such an approach would destabilize an opponent in a manner that Boyd argued (page 209).

dissolve Task Forces is central to GIO's effectiveness. The *Joint Force 2020* identifies relying on elements like cyber and global strike to "bring combat power to bear."[55] The necessity for rapid responsiveness in a future world, where small conflicts can rapidly expand, is clear. The *Joint Force 2020* looks towards more effective prepositioning of resources and supplies, as well as more flexible logistics practices, to facilitate a more responsive Joint Force.[56] While it does recognize that large formations of land forces may not be the optimum response to future contingencies, the *Joint Force 2020* continues to focus on a direct approach when addressing a conflict.

The primary concern expressed is that the degree of mobility required to achieve this element is unsupportable and risks failure when Joint Forces are not able to be globally deployed rapidly enough.[57] From a narrow perspective, concerns over the speed at which the Joint Force can deploy are accurate, but they miss the bigger picture. Although the concepts within this element make significant advances in theories on how the future Joint Force can respond rapidly around the globe to developing conflicts, it stops short of completing the concept. Again, ideas within Cross-Domain Integration help to square the corners and uncover solutions that are readily available within the eighty percent of joint capabilities already procured or programmed.[58]

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[55] Joint Chiefs of Staff, *Joint Force 2020*, 5.
[56] Joint Chiefs of Staff, *Joint Force 2020*, 5.
[57] Joint Chiefs of Staff, *Joint Force 2020*, 5. "This will depend on several factors, most important of which may be that forces themselves are rapidly deployable and that sufficient lift be available and properly postured to deploy them global distances," (page 5). See also: Dempsey, Joint Chiefs of Staff, and Department of Defense, *JOAC 2012*, 37. "Multiple operationally self-contained formations operating independently impose a logistical burden, but the concept offers no direct remedies other than to improve efficiency," (page 37).
[58] Joint Chiefs of Staff, *Joint Force 2020*, iii. General Dempsey identifies in his foreword to the *Joint Force 2020* that the most important advances are going to be gained through new means of employing the systems and capabilities the Joint Force already owns, rather than spending most of the time deciding how to improve the 20% yet to be bought (page iii).

Key to the concept of Cross-Domain Integration is the combining of capabilities; the employing of assets in ways that enhance the effective use of other assets in conjunction with each other. Similarly, the eight elements of GIO do not operate within vacuums unto themselves. As discussed earlier, the application of various capabilities across multiple domains can be utilized to dictate the pace of future operations by disrupting an adversary's ability to decide and act. The solution does not have to be that future Joint Forces must *run* faster when they already have the ability to slow an adversary down. To accomplish this element, Geographic Combatant Commanders (GCC) must learn to work hand-in-hand with Functional Combatant Commanders (FCC) as FCCs possess the means.

Air Force Global Strike Command (AFGSC), US Cyber Command (USCYBERCOM), and US Special Operations Command (USSOCOM) already have the means to surgically strike key nodes with limited notification to buy time for the rest of the Joint Force. Through an indirect means, the FCCs can conceivably extend the timetable of an adversary by attacking their decision making abilities.[59] While the FCCs delay and degrade an adversary, they buy the time needed to deploy a tailored Joint Force into a specific theater. It is important to note that the FCCs are not gaining the final objective, they most likely do not possess the capabilities required to *win* the war by themselves, but that's not their task in this instance. Their task is to take the fight to the enemy, slow him down, and allow the remainder of the Joint Force to get established. The Joint Force must work smarter and make the most of all available capabilities to

[59] "He who knows the art of the direct and the indirect approach will be victorious. Such is the art of maneuver." Tzu, *The Illustrated Art of War*, 155. Sun Tzu further argued that "speed is the essence of war. Take advantage of the enemy's unpreparedness; travel by unexpected routes and strike him where he has taken no precautions." Tzu, *The Illustrated Art of War*, 213.

make up for deficiencies in mobility until the optimum array of assets can be brought to bear.[60]

Element 4: Partnering

The fourth element leverages "expertise and resources existing outside the US military to be better integrated in a variety of operational contexts."[61] To effectively address future challenges, many other agencies within and outside of the US government must be brought into the planning and execution process.[62] As with all the elements of GIO, the military Instrument of Power (IOP) does not operate in a vacuum either. The concern that partners will be unable or unwilling to support military operations is valid to a point, but again misses the degree of integration that must occur at the strategic level.[63] To gain success in the future, military operations must be integrated with the efforts of the other three IOPs; Diplomatic, Information, and Economic.

As seen throughout history, military operations are more effective when capabilities across multiple domains and disciplines are applied toward a common objective through unified effort. Similarly, no national IOP operates independent of the others.[64] To be effective, diplomacy requires credibility in threats and promised rewards.[65] That credibility can only be supported by the other IOPs. Economic sanctions and embargos have little, if any, effectiveness, without diplomacy to inform an adversary

[60] This concept by no means should be taken as an indication that the capabilities provided by the Navy and Marines is of less value. Far from it. Similar to the globally focused FCCs, deployed Naval and Marine forces provide an important rapid response capability as well. However, the key here is an understanding that the objective is not the need to respond more rapidly with forces that can solve any challenge through self-contained capabilities. Rather, the selective application of joint capabilities against key C2 nodes of the adversary can control the pace of an engagement by delaying or disrupting an adversary's advance long enough to bring a more robust Joint Force to bear.
[61] Joint Chiefs of Staff, *Joint Force 2020*, 6.
[62] Joint Chiefs of Staff, *Joint Force 2020*, 6.
[63] Joint Chiefs of Staff, *Joint Force 2020*, 14.
[64] David A Baldwin, *Economic Statecraft* (Princeton, NJ: Princeton University Press, 1985), 13.
[65] Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 2008), 70–71.

what must change to lift the sanctions, information to identify attempts to circumvent the sanctions, and military power capable of enforcing the sanctions. Military operations, it has been said, are diplomacy by other means.[66] The termination of war is more often than not a negotiated peace agreement achieved through diplomatic means. The military sets the conditions that enable diplomatic bargaining. The solution to the concerns related to this element is the integration of the other IOPs to compensate for inabilities within the military domain.

This element of GIO also affects a critical aspect linked to lessons discussed earlier in this paper. There is undoubtedly a need for the Joint Force to integrate with other agencies within the US government such as the Department of State, Central Intelligence Agency, and Department of Homeland Defense, just to name a few. Additionally, organizations outside the US government will be critical to success in the future. More and more the Joint Force is becoming reliant on the support of partners and allies around the world, often the added credibility gained by working with partner nations is of greater value than the specific military capabilities offered. However, one lesson learned from the Civil War speaks directly to the success of this element.

As the Civil War displayed, the only way to offset a lack of *de jour* in a formal chain of command that links multiple agencies is to address the *de facto* attitudes within those agencies.[67] There must be an understanding that by working together, US and foreign agencies are not sacrificing freedom of maneuver, and that gained unity of effort is of far greater value than perceived restrictions of control. Eventually, the US government and all of its agencies must address this crisis of paradigms. The question is

[66] Clausewitz, *On War*, 87.
[67] See Chapter One—US Civil War – Inter-Service Culture of Separation.

not if, but as the previous chapters indicate, when. However, to be effective in leading the rest of the US government through this process, the Joint Force must complete the evolution by setting aside service intuitionalism to gain a truly integrated force. The DOD must get its house in order first, so that it can serve as a model for other organizations, before it begins to direct other agencies to evolve.

There are several advantages to focusing on the DOD first. Firstly, an evolved and integrated Joint Force will serve as a model for other US agencies to follow. Secondly, during a conflict, allied or partner nations already tend to follow command structures similar to that of the US.[68] Keeping the same structure and adjusting the *de facto* of the relationships would enable a smoother transition for allied and partner nations. As such, if the US Joint Force already has an understanding of the means to integrate service capabilities across all domains toward common objectives, similar allied capabilities will easily plug into that structure. The key is that before directing other organizations to develop processes that lead to more effective integration within their ranks and with exterior agencies, the Joint Force must determine what that final product looks like.

Element 5: Flexibility in establishing Joint Forces

The fifth element of GIO argues that future Joint Forces must be flexible in the ways that they are organized. Doctrine identifies either a geographic or functional basis for organizing Joint Task Forces, however the expected nature of the future joint environment is such that more often than not organizations will be functionally or mission based.[69] This means there is the high potential for multiple task forces to be

[68] Joint Publication (JP) 3-16, *Multinational Operations*, 07 March 2007, II-5-II-8.
[69] Joint Chiefs of Staff, *Joint Force 2020*, 6.

operating within close proximity, under different commanders, with different objectives, and little relation to each other.[70] Although this element more specifically discusses the stated purpose of an individual task force, it also brings to the forefront the need for the rapid establishment of joint teams able to address unique security challenges at short notice. The *JOAC 2012* envisions the creation of task forces for specific limited purposes which then dissolve once the mission is complete.[71] Similar to mission command, several risks bubble to the surface, most of which relate to concerns over the control of these temporary, mission specific organizations.

Three main concerns identified within the *Joint Force 2020* and *JOAC 2012* are: being too flexible will limit operational effectiveness; interdependent organizations are inherently less capable when having to operate independently; and, the types of Joint Forces described create extra complication for little advantage gained.[72] These are important concerns that, on one hand, identify potential weaknesses of the concept that could risk ultimate failure to effective address the security environment. At the same time, they completely misinterpret the core proposition of GIO; that greater advantages are gained through the integrated application of the Joint Force across all domains than through the efforts of independent services.

The first concern argues that a significant degree of trust and familiarity with the abilities and limitations of other units is required to achieve the level of flexibility called for in the *Joint Force 2020*.[73] Furthermore, it argues that familiarity currently does not exist within the Joint Force and therefore creates significant risk when attempting to build

[70] Joint Chiefs of Staff, *Joint Force 2020*, 6.
[71] Dempsey, Joint Chiefs of Staff, and Department of Defense, *JOAC 2012*, 21.
[72] Joint Chiefs of Staff, *Joint Force 2020*, 15; See also, Dempsey, Joint Chiefs of Staff, and Department of Defense, *JOAC 2012*, 36–37.
[73] Joint Chiefs of Staff, *Joint Force 2020*, 15.

a task force on the fly. "Forces must not enhance their modularity at the expense of their mission effectiveness."[74] Locher identified the lack of familiarity within the Joint Force as one of its weakest areas. Although mandated to instruct military personnel on Joint Operations, as Chapter Two identified, the services have drug their feet, the result being watered concepts of inter-service operations.[75]

Relying on purely book work and lectures to impart a full understanding of how a soldier perceives the battle space, or to expect that reading portions of Mahan's writing will expose Air Force officers to the true core beliefs of the Navy, is shortsighted to say the least. Does it provide a glimpse of the values of the various services? Sure. Does it create a dialog on the way the Navy thinks as compared to the Army? Absolutely. Does it create a degree of teamwork, trust, and familiarity in which an Army Battalion XO knows in his gut that when the Air Force F-15E pilot says the Army will get the desired air support he means it? Not so much. What builds trust is actually working with the members of the other services. Training in the situations that challenge the Joint Force to employ the degree of flexibility expected in combat builds a common understanding and trust. Furthermore, the idea that "standardization may lead to decreased diversity, flexibility, versatility and, ultimately, effectiveness" is indicative of the toxic *de facto* attitudes prevalent within the Joint Force today.

If every service looked and functioned alike, there would be no need for multiple services. But that is not the case. Each service, and each organization within each service, brings specialized capabilities to the Joint Force.[76] As previously cited, Sun Tzu

[74] Joint Chiefs of Staff, *Joint Force 2020*, 15.
[75] James R. Locher, *Victory on the Potomac: The Goldwater-Nichols Act Unifies the Pentagon*, (College Station, TX: Texas A & M University Press, 2002), 444.
[76] Robert McCarter (CSM USA, USSOCOM), interview by the author, 13 January 2013.

argued the importance of diverse capabilities.[77] Similarly, Tukhachevskii argued for the integrations of the different capabilities of infantry, artillery, armor, and aviation to develop his all-arms battle.[78] He did not prescribe that each of these specialists shed their specific capabilities or values and become carbon copies of each other. Rather, Tukhachevskii challenged the divisions of his army to share a common understanding of the battle space, to be able to share a common vision.

In a similar manner, Cross-Domain Integration does not argue for a Joint Force made up of jacks of all trades and masters of none. Instead, it expects organizations to specialize in certain capabilities. Each service is expected to bring an expertise in its specific domains of operation and there will always be a need for those capabilities. But it is expected that these various organizations have the ability to bring their individual capabilities together to create a Joint Force able to address more than just one tactical challenge.

Noted historian Richard Overy argued the need for diversity of capabilities.[79] Overy's argument specifically addressed the successful employment of airpower by the US during WWII by focusing on "general airpower" vice "limited airpower". Overy defined general airpower as the employment of airpower over all four areas; air defense,

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[77] Tzu, *The Illustrated Art of War*, 137.
[78] Richard E. Simpkin and John Erickson, *Deep Battle: The Brainchild of Marshal Tukhachevskii* (Washington, DC: Brassey's Defence, 1987), 251.
[79] Richard J. Overy, *The Air War, 1939-1945* (Washington, DC: Potomac Books, Inc., 2005), 203–204. "But during the war there developed an explicit dichotomy between those powers that practiced a limited air strategy and those who developed a general air strategy. The limited use of airpower was confined to one major role in support of the other services…Both Britain and the United States practiced a general air strategy. A general air strategy involved the pursuit of all four of the major aspects of air doctrine simultaneously, while providing sufficient material resources to meet the demands of such a policy. Thus both powers placed equal emphasis, though not necessarily equal resources, on air defense, strategic bombing, aero-naval co-operation, and air support for ground troops" (pages 203-204).

strategic bombing, aero-naval co-operation, and air support for ground troops.[80] In limited airpower, a country—Overy used Germany and Japan of WWII as examples—employs airpower in only a few of the four areas.[81] This limitation of airpower proved to be detrimental to Germany and Japan in the long run. Of importance, in order to have general airpower, the US and Britain had to invest in specific aircraft capable of serving in each area of operation, as no single aircraft could meet the requirements of all the mission types.[82]

The discussion above touches on the solution to the second major concern; that emphasis on cross-domain combat will suggest significantly less need for organic self-sufficiency.[83] No service today fights a war, a campaign, or even a battle with solely organic self-sufficient capabilities. Today, the Marine Corps is famous for its ability to deploy independently at a moment's notice, but the average Marine does not actually deploy alone. As a rule, completely independent—single domain—operations ceased in the days of Thucydides. Once an army leveraged a navy's capabilities to cross an ocean and attack an enemy, the age of service interdependence began. As OEF and OIF demonstrated, technological advances have necessitated that services become more reliant on the capabilities of the each other, even if the *de facto* of the day fought against it. As much as institutional parochialism makes it taboo to acknowledge it, it is unlikely (not to mention highly undesirable) that any service will ever go into combat alone in the future.

[80] Overy, *The Air War*, 204.
[81] Overy, *The Air War*, 204.
[82] Overy, *The Air War*, 204.
[83] Dempsey, Joint Chiefs of Staff, and Department of Defense, *JOAC 2012*, 36.

Consider the lone Marine mentioned earlier. While he may appear to be an individual human with a rifle, he actually represents just the tip of an enormous organization. The Marine relies on the Global Positioning System (GPS) to navigate the terrain. His handheld GPS links the Marine into an expansive system of space-based satellites, ground stations, and systems experts that ensure the data he receives is timely and accurate. The intelligence that this Marine used to find his target most likely came from a combination of air, space-based, and cyber assets, if not also other US agencies. The technology in Blue Force Tracker that links this Marine to his commander and provides situational awareness on friendly forces is dependent upon cyber and space-based capabilities. The direct support that this Marine will call upon if engaged with the enemy can come from air-based assets linked to the Marine through space-based systems. Finally, the means to transport food, ammunition, and even the Marine to the battlefield relies on land, sea, and air-based capabilities. The Marine Corps does possess many of these capabilities via organic systems, but the fully capable Marine rifleman does not fight independently.

Secondly, in an era of significant budget cuts, the Joint Force must act strategically in the development of future capabilities. As identified by the Center for Strategic and Budgetary Assessments (CSBA), the Joint Force needs to think in terms of common capabilities without regard for service ownership.[84] The simple fact is that the budget does not permit each service to duplicate capabilities of the others; the Joint Force needs to focus on the most capable asset and a degree of redundancy through secondary capabilities. "Mitigating this risk requires maintaining a sensible balance between

[84] Todd Harrison and Mark Gunzinger, *Strategic Choices Navigating Austerity* (Washington, DC: Center for Strategic and Budgetary Assessments, 2012), 21.

organic capabilities and those accessible only through external support."[85] This comment from the *JOAC 2012* reaches back to the need to develop a more appropriate *de facto* through more effective education and joint training.

The final concern related to this element ties the first two together; attempts to attain the degree of integration called for by *Joint Force 2020* could lead to joint operations of "debilitating complexity."[86] The concern argues that the environment identified by the *JOE 2010* is already difficult enough, the Joint Force should not attempt concepts of operation so challenging to coordinate that it makes an already complicated task impossible. The root problem here is that while the *JOE 2010*, *CCJO v2.0*, *CCJO v3.0*, *JOAC 2012*, and *Joint Force 2020* recognize that the current construct of the Joint Force is lacking in ability to address the expected security challenges of the future, they are hesitant (or possibly unaware of how) to direct the DOD to develop the *de facto* that will enable effective coordination of capabilities across all domains.

As argued above, this is a deficiency in training. As Operation Eagle Claw demonstrated, any process is complicated the first time it is attempted, and to expect a Joint Force that rarely trains together to be able to seamlessly integrate at a moment's notice is an unreasonable expectation. The Joint Force must spend time training together to find the seams where computer systems, radio frequencies, TTPs, etc., are incompatible, so these issues can be addressed and corrected. The time to discover that the brand new counter Improvised Explosive Device (IED) jamming system also jams communication links to dedicated CAS platforms should not be in the middle of a battle in Afghanistan. That mismatch should have been vetted through joint training back at a

[85] Dempsey, Joint Chiefs of Staff, and Department of Defense, *JOAC 2012*, 36.
[86] Dempsey, Joint Chiefs of Staff, and Department of Defense, *JOAC 2012*, 37.

test range in the US. Similarly, the Joint Force must "avoid combining joint capabilities where doing so adds complexity without compensating advantage."[87] If Operation Eagle Claw taught the Joint Force anything, it is that effective integration takes effort, and that not every service needs to play in every operation. "The synergy achieved by combining Service capabilities usually more than offsets the added complexity."[88] It is up to the commanders to ensure maintenance of the proper balance in capabilities rather than creating additional risk to allow more people to play.

Element 6: Cross-Domain Synergy

The sixth element leverages advantages gained within individual domains to create or increase advantages in others, thereby overwhelming an adversary's ability to resist.[89] Originally seen as simply a means to counter A2AD threats and ensure the future ability of the US to project power into contested regions, Cross-Domain Synergy should also be a central element to all Joint Force operations.[90] This element envisions the application of the services across traditional domains in the effort to gain localized superiority at key points in time and place that generate advantages in other domains for other service operations. Additionally, Cross-Domain Synergy is selective in the domains in which the Joint Force will focus its attention. The concept is vague in its directional use of various domains, stating that specific application will vary "depending on the domains in which the enemy operates."[91] This is a critical point that the Joint Staff must amplify if the Joint Force is to effectively employ cross-domain operations.

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[87] Joint Staff, *CCJ V2.0*, 25.
[88] Joint Staff, *CCJ V2.0*, 25.
[89] Joint Chiefs of Staff, *Joint Force 2020*, 7.
[90] Dempsey, Joint Chiefs of Staff, and Department of Defense, *JOAC 2012*, 16. See also, Joint Chiefs of Staff, *Joint Force 2020*, 7. The CCJO adds the statement that Cross-Domain Synergy "should become a core operational concept in all joint operations," (page 7).
[91] Dempsey, Joint Chiefs of Staff, and Department of Defense, *JOAC 2012*, 17.

Although not spelled out, a critical aspect of Cross-Domain Synergy and Cross-Domain Integration is the capitalization of advantages gained within one domain to offset disadvantages within another. Similar to the ideas of Sun Tzu and military historian Sir Basil Liddell Hart, the Joint Force should lean away from the enemy's strong defensive positions and seek out weak points.[92] Through the exploitation of weakness within one domain, the future Joint Force can influence, degrade, and deny the enemy's capabilities within other domains. Additionally, the converging of capabilities traditionally employed in different domains toward a common objective greatly increases the potential for success.

Expressed concerns over the employment of Cross-Domain Synergy echo many of those voiced with regard to the need for a more flexible Joint Force organization. The first concern, as seen in the earlier discussion on a more flexible Joint Force, is that the removal of redundant systems will create "operational brittleness."[93] Second, critics worry that by promoting joint standardization, service diversity, flexibility, versatility, and effectiveness will be greatly degraded.[94] Third, critics point out that Cross-Domain Synergy requires the proper environment in which to work, that "merely combining Service capabilities across domains does not ensure synergy."[95] The first and second concerns have already been addressed, so it would be of little use to travel that ground again. It is worth reiterating, however, that the desire is not to make Navy officers think

[92] "Offer the enemy a bait to lure him; feign disorder and strike him. When he concentrates, prepare against him; where he is strong, avoid him." Tzu, *The Illustrated Art of War*, 97. Liddell Hart argued that, "throughout the ages, effective results in war have rarely been attained unless the approach has had such indirectness as to ensure the opponent's unreadiness to meet it. The indirectness has usually been physical, and always psychological. In strategy, the longest way round is often the shortest way home." Basil Henry Liddell Hart, *Strategy* (New York, NY: Meridian, 1991), 5.
[93] Joint Chiefs of Staff, *Joint Force 2020*, 15.
[94] Joint Chiefs of Staff, *Joint Force 2020*, 15.
[95] Dempsey, Joint Chiefs of Staff, and Department of Defense, *JOAC 2012*, 36.

like Air Force officers, or for a soldier to start acting like a sailor. The value of each service is that it brings specialized capabilities, domain expertise, and different perspectives to the entire Joint Force.

A soldier will always see the world through the lens of a force designed to take and hold terrain through a hard-hitting and enduring presence. A Marine will always consider an operation from the perspective of a light, hard-hitting, highly mobile amphibious force. Sailors perceive the world through command of the sea, projecting power from the oceans, and mission command. Airmen will always be looking beyond the horizon, to the strategic battle, and means to bypass defenses to strike at the heart of the enemy. These perspectives are not wrong, and should not be suppressed. In the future, members of the Joint Force must be able to view the world from their counterpart's perspective. Air Force members must be able to view a security challenge through the lens of an Army or Marine battalion commander to better understand their concerns and capabilities. This is only possible by improving Joint PME and adjusting the DOD's *de facto* by enhancing opportunities for future Joint Force training.

The third concern speaks directly to the need for a new perspective, a new *de facto*. To successfully address future challenges, the Joint Force must change the way it thinks about how it employs. It must stop thinking in terms of applied service forces, and think in terms of common capabilities and their application across all domains toward a common goal. Unity of effort relies on the ability to set aside institutional attitudes so that service members can focus on the common objectives of a conflict.

Element 7: Use of flexible, low-signature capabilities

The seventh element of GIO leverages the employment of "low-signature or small-footprint capabilities such as cyberspace, space, special operators, global strike, and ISR."[96] As discussed earlier, these capabilities provide the potential to rapidly address a security crisis from home station while a complete JTF is deployed to the region. The *Joint Force 2020* goes a step further. Once established, a JTF should look to incorporate these capabilities into its campaign plans. USSOCOM has been highly successful in the way it presents forces to GCCs and JTFs. USCYBERCOM and AFGSC should duplicate this model to better integrate their capabilities into specific JTF operational plans.

Two primary concerns have been expressed in regard to the use of low-signature assets; first that the Joint Force will be unable to gain the technology required and second that even with the technology available, "Deep, precise strikes to neutralize enemy anti-access and area-denial weapons…may be unrealistic."[97] Pairing General Dempsey's opening comments to the *Joint Force 2020* with the CSBA's recommendations on future defense spending establishes an achievable roadmap to address the first concern.

While the DOD is expected to reduce its budgetary needs, it will be able to support this concept if it is willing to trim fat out of its programs. As the CSBA recommends, the DOD must make decisions early on the types of capabilities that will be required into the future.[98] As discussed, the *JOE 2010* provides a realistic look at future threats. By comparing similar capabilities from all the services, the Joint Force can identify overly redundant programs to be cut, as well as those that to retain and further

[96] Joint Chiefs of Staff, *Joint Force 2020*, 7.
[97] Dempsey, Joint Chiefs of Staff, and Department of Defense, *JOAC 2012*, 37.
[98] Harrison and Gunzinger, *Strategic Choices Navigating Austerity*, 22.

expand. The CSBA study shows that by making aggressive, capabilities based decisions the DOD will be able to afford the high cost technology desired while still meeting the budget cuts mandated.[99]

The second concern is indicative of a lack of specificity in the way the *JOAC 2012* and *Joint Force 2020* were written. While both speak to an understanding that superiority within a domain will most likely be localized and short lived, both neglect to carry that concept into addressing this concern. The risk as written is that "if such hostile systems cannot be neutralized, the successful execution of the concept could be at risk."[100] Although not specifically stated, the *JOAC 2012* implies that low-signature capabilities should be targeted to strike against A2AD weapons systems. It is representative of focusing on the direct approach and forgetting that synergy is gained by incorporating indirect approaches with the direct. Clausewitz's discussion on engagements offered and not accepted provides useful insight. "The fact that engagements do not always aim at the destruction of the opposing forces, that their objectives can often be attained without any fighting at all but merely by an evaluation of the situation, explains why entire campaigns can be conducted with great energy even though actual fighting plays an unimportant part of it…There is only one means in war: combat. But the multiplicity of forms that combat assumes leads us in as many different directions as are created by the multiplicity of aims…"[101]

Low-signature capabilities should be targeted against as many critical nodes of an enemy's overall A2AD system as simultaneously as possible. The enemy is more likely

[99] The CSBA observed that the two groups in the study that made the most aggressive decisions were actually able to add new development programs to their budgets. Harrison and Gunzinger, *Strategic Choices Navigating Austerity*, 12.
[100] Dempsey, Joint Chiefs of Staff, and Department of Defense, *JOAC 2012*, 37.
[101] Clausewitz, *On War*, 96.

to be overwhelmed when faced with attacks from multiple discrete directions at once than when having to address a single-axis of attack. Additionally, the entire A2AD system does not need to be destroyed. Efforts need to focus on gaining access only into areas required based on the political objectives that are guiding the military operation. Furthermore, the A2AD system only needs to be degraded for the period of time that friendly forces require access to a specific area. Similar in concept to airborne jamming and Suppression of Enemy Air Defenses (SEAD), the Joint Force is successful if it is able to degrade, deny, or delay A2AD threats while friendly forces are within the region. Outside of those times, the status of the enemy's defenses does not matter, as no friendly forces are threatened. Indirect attacks through space, cyber, special operations, and global strike, with the support of ISR for effective targeting, can be successful in degrading enemy defenses to acceptable levels to facilitate Joint Force operations even if the threat is not physically destroyed.

Element 8: Increasingly discriminate to minimize unintended consequences

The final element of GIO is the requirement to minimize unintended consequences by being more discriminate in targets that the Joint Force engages and how it engages them. This element actually expressed the very concern related to it. The potential for collateral damage, political damage, or the requirement to strike deeply into an enemy's territory will make the execution of GIO not politically supportable.[102] In the end, the degree of risk and political fallout is a question that the civilian leadership must decide. That said, the military is responsible for providing multiple options that offer various results and risks for the politicians to choose from.

[102] Dempsey, Joint Chiefs of Staff, and Department of Defense, *JOAC 2012*, 38.

The proper integration of capabilities provides these very options. The employment of low-signature capabilities such as cyber can generate a given effect for a given level of risk, while the deployment of a holistic task force designed to support a land invasion offers a completely different set of effects and associated risks. However, these multifaceted options are rarely discussed within the current *de facto*. As long as the services measure their value based on their most recent operations, politicians are going to continue to receive Army-centric, Air Force-centric, Navy-centric, and Marine Corps-centric options.[103] A change in the *de facto* will open the door for military operations focused on Joint Capabilities, rather than service forces. This concern also brings to light the need to educate political leaders. While the Joint Force is highly capable, as identified by General Jacob Smart, Deputy for Operations in the Far East Air Force, it has limitations.[104] The government must continue to search for means to integrate the capabilities of all the IOPs toward the desired objectives.

Summary

Authors of the *JOAC 2012* and *Joint Force 2020*, like their predecessors, do a superior job of laying out the challenges that will face the future Joint Force. They were also successful in providing a compass indicating the desired direction in which the Joint Force must travel to not just survive but also excel within the future world. However, the *JOAC 2012* and *Joint Force 2020* are light on specifics and often reflect a hesitancy to commit to the new paradigm. Admittedly, both documents acknowledge that they do not

[103] CSM McCarter, interview.

[104] Conrad C. Crane, *American Airpower Strategy in Korea 1950-1953* (Lawrence, KS: University Press of Kansas, 2000), 6. "'Few people other than experienced Air Force people appreciate the limitations of airpower.' Air Forces 'have only destructive power', and while it may be substantial, it might not always be the best means to an end." Although Crane and General Smart are specifically discussing airpower, the idea is valid for military force in general. It is up to political leaders to determine which IOP or more accurately which combinations of IOPs will most effectively yield the desired results (page 6).

provide all the answers, but attempt to open a dialogue on the issues at hand. However, the reluctance to embrace a new paradigm, indicated by voiced concerns, often circles around the misconception that the final goal is a one-size fits all style of Joint Force, that synergy is accomplished through more advanced communication technology, and that if constructed correctly, the Joint Task Forces can deploy effectively without having trained together.

As seen in Chapter One, the Joint Force has valid and capable *de jour* in the form of current doctrine and the guidance dictated through the GNA. This thesis does not recommend significant changes to the *de jour*, other than to bring service doctrine more into alignment with joint governing concepts. The second element is technology. Technology facilitates the integration of the services by providing other means to produce desired effect across multiple domains. To a significant degree, the *JOAC 2012* and *Joint Force 2020,* rely on technology to improve the degree of unity of effort. However, the authors do not fully appreciate the relationship between *de jure*, *de facto*, and technology. The required *de jure* is in place. Technology takes us where we direct. What needs to change is the *de facto*, the attitudes of the people within the Joint Force.

GIO is lacking a ninth element; a new *de facto*. The very core of GIO, its ability to facilitate the type of Joint Force envisioned by the *JOAC 2012* and *Joint Force 2020* depends on a new model of thought, a new paradigm within the military community. As determined in Chapter One, a poor *de facto* restricted attempts of improved inter-service operations. In Chapter Two, an analysis of Locher's assessments determined that the prevalent *de facto* inhibited the Joint Force from more effectively meeting mandates of the Goldwater-Nichols Act. The development of a common perspective—a new *de*

facto—is the foundation upon which the other elements of GIO will rely. The services are not expected to shed their specific perspectives of warfare, those are valuable and it is important that they continue to train their personnel to view the world in individual service ways as well as hone the particular skills they bring to the joint community. But they must also train the next generation of military professionals in the ability to step out of their service perspective and view the world through the eyes of their sister services. This ability is only possible through the development of more effective joint PME and a concerted effort to place a premium on joint training opportunities focused on the effective employment of joint capabilities across all domains toward a common unified objective.

Chapter 4

A Capabilities-Based Approach: The Ninth Element

> *As our understanding of the history of technology increases, it becomes clear that a new device merely opens a door; it does not compel one to enter. The acceptance or rejection of an invention, or the extent to which its implications are realized if it is accepted, depends quite as much upon the conditions of a society, and upon the imagination of its leaders, as upon the nature of the technological item itself.*
>
> Lynn White Jr.

Over the past year, General Dempsey and the Joint Staff have made significant progress in breaking ground on a new paradigm of inter-service operations. However, a majority of Globally Integrated Operations is currently reliant upon advances in technology to facilitate the integration of the Joint Force, rather than focusing on empowering military leaders with an understanding of the means to integrate joint capabilities across all domains. The Joint Force already possesses the means to accomplish change as seen in the current doctrine of the Marine Corps:

> There are two dangers with respect to equipment: the over-reliance on technology and the failure to make the most of technological capabilities. Technology can enhance the ways and means of war by improving humanity's ability to wage it, but technology cannot and should not attempt to eliminate humanity from the process of waging war. Better equipment is not the cure for all ills; doctrinal and tactical solutions to combat deficiencies must also be sought. Any advantages gained by technological advancement are only temporary for someone will always find a countermeasure, tactical or itself technological, which will lessen the impact of the technology. Additionally, we must not become so dependent on equipment that we can no longer function effectively when the equipment becomes inoperable. Finally, we must exercise discipline in the use of technology. Advanced information technology especially can tempt us to try to maintain precise, positive control over subordinates, which is incompatible with the Marine Corps philosophy of command.[1]

[1] Marine Corps Doctrinal Publication (MCDP) 1, *Warfighting*, 20 June 1997, 67.

A new paradigm for the Joint Force must find its foundation in the way military professionals perceive the battle space. The model must change the way the Joint Force thinks about the means to combine service-specific capabilities. Ultimately, a new paradigm for the Joint Force must revolve around a change in *de facto* to facilitate a more agile and integrated DOD to meet the expectations of the Goldwater-Nichols Act and the current CCJO vision. To accomplish this, the Joint Force must pursue a capabilities-based approach rather than the application of service forces in the planning and execution of inter-service operations. The DOD must focus on developing trust among the organizations of the Joint Force, and it must change the attitude of its people so that the integration of domain capabilities are not just acceptable be desirable. Without the addition of a ninth element—which incorporates the concepts of Cross-Domain Integration—Globally Integrated Operations will continue to be the combining of service forces and the "failure to make the most of technological capabilities."[2] The Joint Force possesses the answer, it just needs to adjust the perspective of its people to more effectively employ the knowledge it already possesses.

Capabilities vs. Force Focus

Codified concepts within the Joint Operations Planning Process (JOPP) and Operational Design explain the process and style of thought that military planners should employ into the future.[3] As depicted in Figure 13, current doctrine directs that the planning process start with desired political end states and work backward to identify

[2] MCDP 1, *Warfighting*, 67.
[3] Joint Publication (JP) 5-0, *Joint Operation Planning*, 2011. JP 5-0 defines JOPP as, "An orderly, analytical process that consists of a logical set of steps to analyze a mission, select the best course of action, and produce a joint operation plan or order (GL-11). JP 5-0 operational design as, "The concept and construction of the framework that underpins a campaign or major operation plan and its subsequent execution (page GL-13).

decisive points where military capabilities are applied to gain advantages over the adversary.[4] At this phase of the planning, the focus is on the effects required to gain advantages and the military capabilities available to establish the desired effects. Service affiliation, specific type of weapon system, and budgetary impact assumed if a specific weapon system is not employed is not part of the equation.[5] The concern of utmost importance is how to properly align available capabilities, at the proper time and place, to gain specific effects that support military objectives and set the condition for political success.[6]

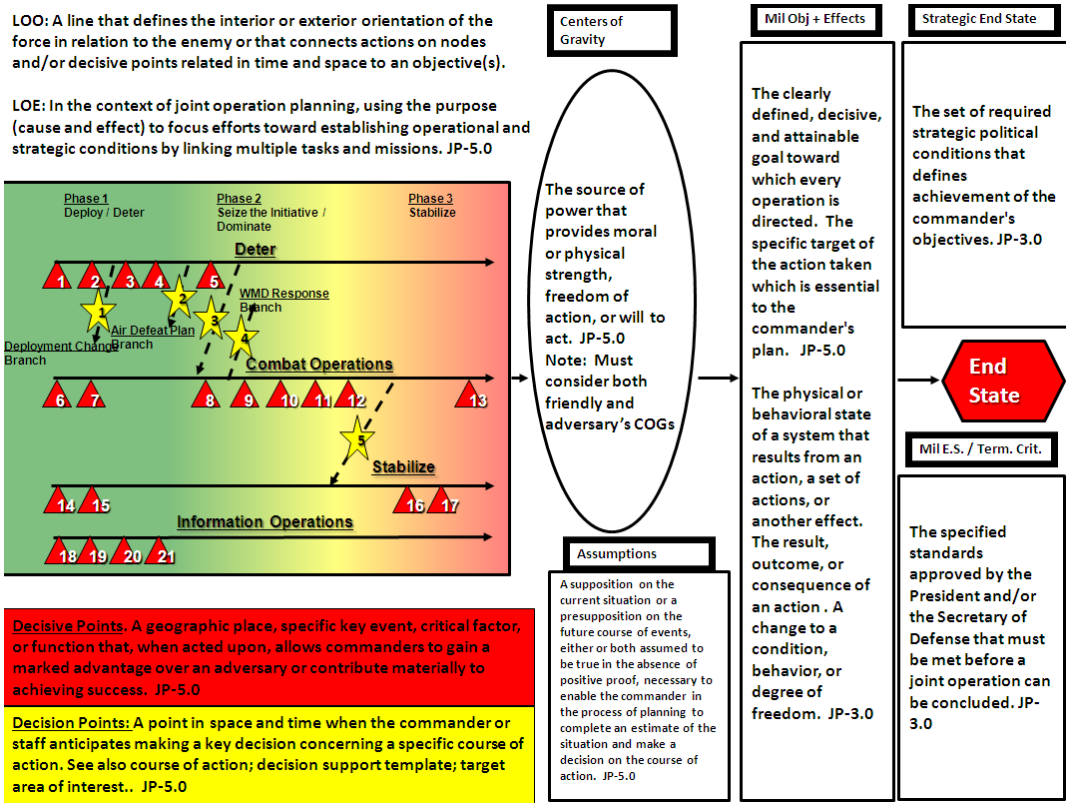

Figure 13: Political End States to Decisive Points

Source: Modified from ACSC Cross-Domain Operators Course Material

[4] JP 5-0, *Joint Operation Planning*, II-1. "Joint planning is end state oriented…Joint operation planners must know where to look for the guidance to ensure that plans are consistent with national priorities and are directed toward achieving national security goals and objectives" (page II-1).
[5] JP 5-0, *Joint Operation Planning*, III-1.
[6] JP 5-0, *Joint Operation Planning*, III-8.

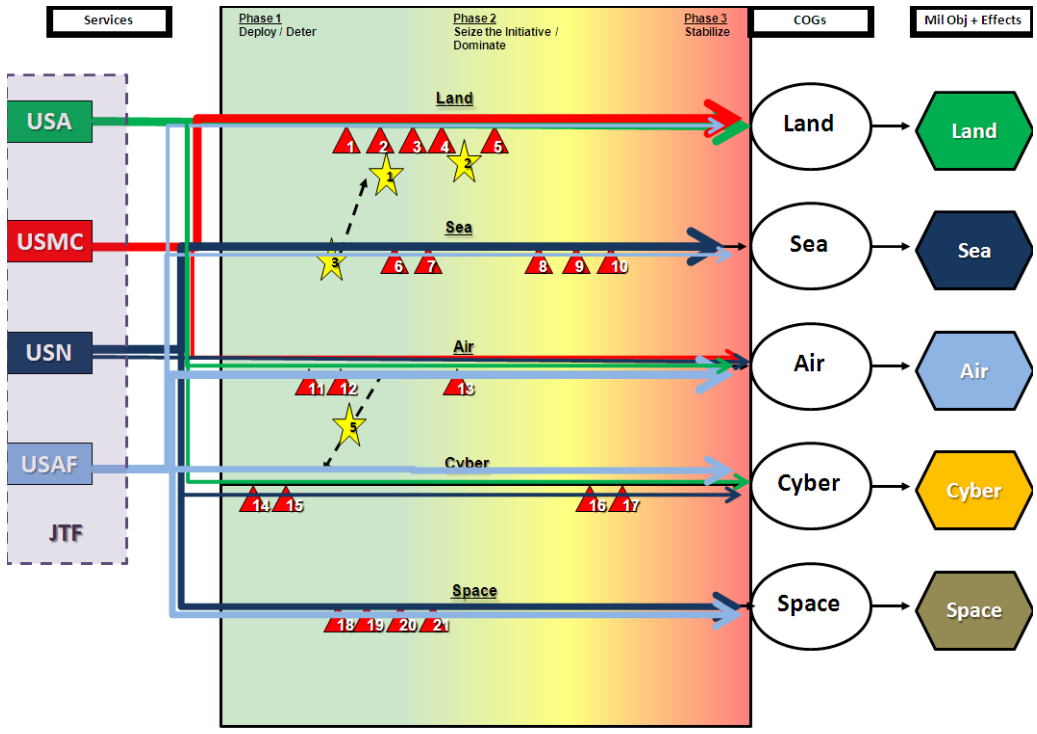

Figure 14: Current Perspective of Joint Operations

Source: Author's Concept

However, as shown in Figure 14 above, once Operational Design is completed, the *de facto* of the Joint Force tends take over and services fall back into their parochial boundaries as operational art is used to link specific weapon systems and units to specified tasks that produce desired effects.[7] Central to the effective use of operational art is the application of a commander and staff's "knowledge, experience, and judgment," all of which are dictated by their individual *de facto*. The current preference is to think of an operation in terms of developed Lines of Operations or Effort (LOO or LOE) that the Army, Marines, Navy, and Air Force should take responsibility for and the objectives

[7] JP 5-0, *Joint Operation Planning*, GL-13. JP 5-0 defines operational art as, "The cognitive approach by commanders and staffs—supported by their skill, knowledge, experience, creativity, and judgment—to develop strategies, campaigns, and operations and organize and employ military forces by integrating ends, ways, and means (page GL-13).

they will individually attain.[8] This process is identified as a Joint Task Force (JTF), but rather than a common unified military objective which all service efforts are integrated toward, the current paradigm assumes that if each service is successful in attaining its domain-specific objectives, the military will meet the conditions required to terminate the campaign. The central proposition being that control of each domain must result in command of the theater and therefore achievement of the political goals.

An examination of the days leading up to the start of combat operations in OIF serves as a case in point. As Secretary of State Colin Powell observed, the assumption at the time within the administration and the military was that once superiority over the Iraqis was gained, resistance would end and the country would begin to shift toward a democratically lead government.[9] The idea was that the Iraqi people, having just seen their military oppressors overwhelmed through air, land, sea, space, and cyber, would turn to their conquerors in jubilation, shed their authoritarian ways, and become a liberal democracy. As events transpired, this was shown to be a false assumption.[10] However, the military can only do so much, and the assumption that the application of military force will cause political objectives to fall into place is short sighted.[11]

The *Joint Force 2020* and *JOAC 2012* speak of utilizing Cross-Domain Synergy to leverage advantages gained within one domain to overcome an adversary's resistance

[8] JP 5-0, *Joint Operation Planning,* GL-12. JP 5-0 defines a line of effort as, "using the purpose (cause and effect) to focus efforts toward establishing operational and strategic conditions by linking multiple tasks and missions" (page GL-12). JP 5-0 defines line of operation as, "The force in relation to the enemy or that connects actions on nodes and/or decisive points related in time and space to an objective(s)" (page GL-12). See also: Jeffrey M. Reilly, *Design: Distilling Clarity for Decisive Action* (Maxwell AFB, AL: Air Command and Staff College, 2011), 55. Reilly differentiated LOOs from LOEs by asserting that LOOs "define the orientation of the force in time and space or purpose in relation to an adversary or objective," while LOEs "better explain today's actions across the entire range of military operations, including non-kinetic, information, and stability operations" (page 55).
[9] Colin L. Powell, *It Worked for Me: In Life and Leadership* (New York: Harper, 2012), 210.
[10] Powell, *It Worked for Me,* 212.
[11] Conrad C. Crane, *American Airpower Strategy in Korea 1950-1953* (Lawrence, KS: University Press of Kansas, 2000), 6.

within other domains. While this represents a significant step in the right direction, this assertion still argues for the application of service forces within their traditional lanes. As discussed in Chapter Three, Globally Integrated Operations still promotes land forces as the means to counter an opposing land force, cyber against cyber, and so on. While the US has been able to get away with such a direct approach in the past, the *JOE 2010* predicted future does not lend itself to such an approach. Additionally, the DOD has become predictable in its means, which Sun Tzu specifically warned against when he stated: "Therefore, when I have won a victory I do not repeat my tactics but respond to circumstances in an infinite variety of ways."[12] The tactics that the Joint Force continues to repeat and that are described within the *Joint Force 2020* and *JOAC 2012* can be more accurately described as Cross-Domain Spillover. As depicted in Figure 15, by focusing on a specific domain, the Joint Force has been able to gain a degree of superiority that, in effect, spills over into other domains. This application of force is effective to a point, but becomes predictive and therefore more easily countered.

For example, the gaining of localized superiority within the cyber domain—through the application of traditional cyber assets—is able to degrade command and control (C2) capabilities.[13] This affect spills into the air domain, as degraded command and control impacts the responsiveness of an Integrated Air Defense System (IADS). The impact on C2 thus makes it more difficult for the IADS to coordinate its response to an attack by air forces. The gaining of air superiority then spills over into the sea and

[12] Sun Tzu, *The Illustrated Art of War*, ed. Samuel B Griffith (New York, NY: Oxford University Press, 2005), 152.
[13] Derek S. Reveron, "An Introduction to National Security and Cyberspace," in *Cyberspace and National Security* (Washington, DC: Georgetown University Press, 2012), 3–4. Reveron presented the presumed Russian cyber attacks against Georgia in 2008 as an example of the disruptive capabilities of a cyber attack against command and control systems (page 3).

land domain, as loss of air superiority makes it more hazardous for adversary forces to maneuver within those domains. This is the model of attack that the Joint Force used in Desert Storm, OEF, OIF, virtually every Red Flag exercise, and is essentially the concept pushed by the *Joint Force 2020*.[14] As identified in Chapter Two, potential adversaries have figured out how we play the game. Worse yet, they now understand that preventing the Joint Force from gaining superiority in one domain will significantly impacts its ability to operate in other domains. By denying our ability to operate within cyberspace, future adversaries have essentially ground the entire Joint Force to a halt. While a direct approach has its uses, it can be made more effective, and counters to it mitigated when combined with indirect approaches.

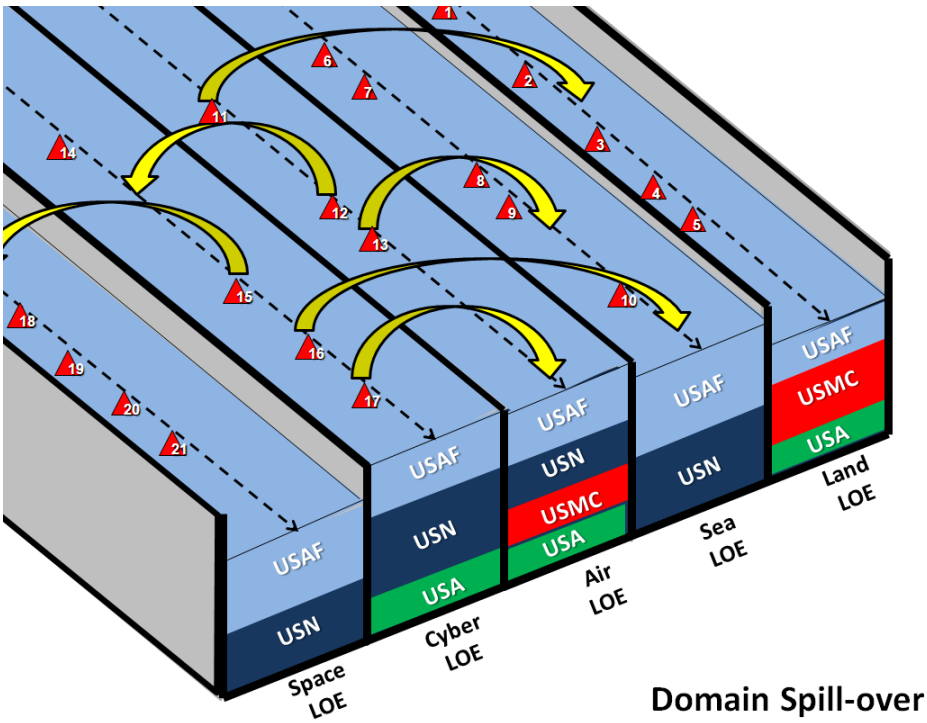

Figure 15: Cross-Domain Spill-Over

Source: Author's Concept

[14] Joint Chiefs of Staff, *Capstone Concept for Joint Operations: Joint Force 2020* (Washington, DC: Department of Defense, 2012), 7.

Rather than focusing on the direct application of service forces, military strategists must change their mindset and look toward the application of joint capabilities and how they can be integrated across all domains toward a common objective. This is the essence of unified effort and the ultimate goal of Cross-Domain Integration. As General Schwarzkopf and General Horner understood during Operation Desert Storm, there is no *Army Campaign*, no *Marine Campaign*, no *Air Force Campaign*, and no *Navy Campaign*; there is only the Joint Force Campaign and the objectives, effects, and capabilities of each domain must be focused on that one mission.[15]

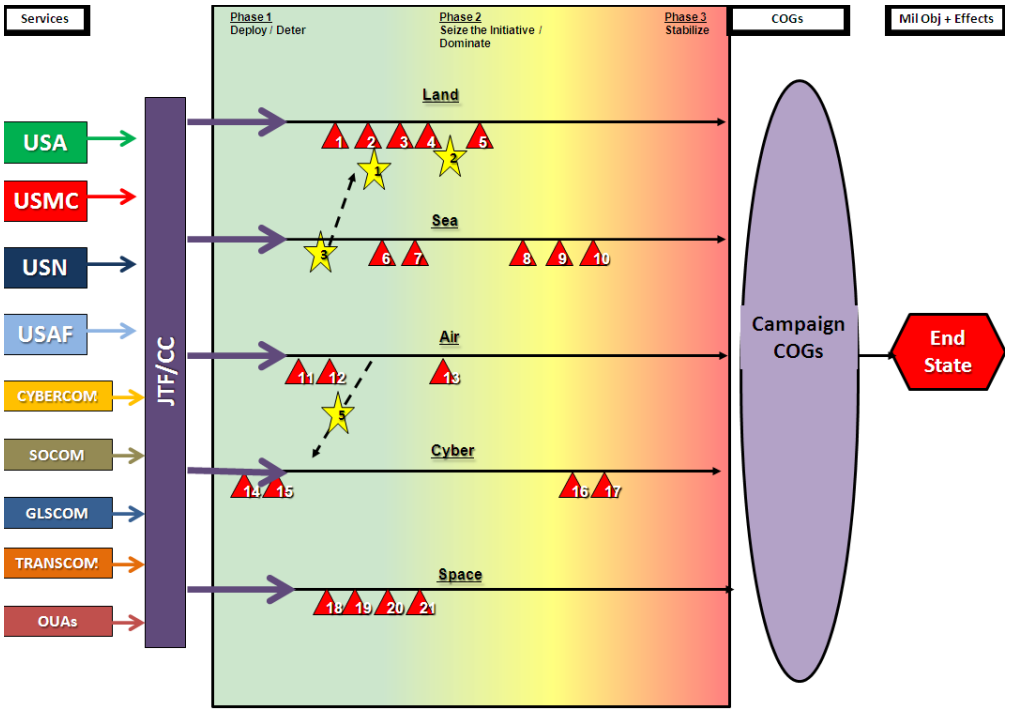

Figure 16: Joint Application of Service Capabilities

Source: Author's Concept

[15] James Kitfield, *Prodigal Soldiers: How the Generation of Officers Born of Vietnam Revolutionized the Amercian Style of War* (Washington, DC: Brassey's, 1997), 358.

As Figure 16 depicts, the Joint Force must come to grips with the idea that each service presents specific capabilities to the Joint Force Commander who then should apply those abilities across all LOEs and LOOs toward the joint objective. At this point some may be scratching their heads and asking, how is this different than what our current doctrine states. They are exactly correct; our current doctrine, the current *de jure*, already directs that the Joint Force to operate in this fashion. But time and time again service parochialism stops the good intentions of doctrine dead in its tracks.

Although doctrine speaks of services presenting forces to the GCC or FCC and the commander determines how those forces should be employed, what happens more times than not is that capabilities are lumped into their parent force and employed in relative isolation of other domains.[16] As General Flynn noted, the CCDRs are the primary warfighters of the Joint Force; it is up to them to apportion capabilities across domains to accomplish the missions tasked to them.[17] Similarly, the authority of JTF/CCs to apportion capabilities must be uninhibited by service *de facto* attitudes so that capabilities can be effectively distributed across domains.

Similarly, FCCs need to consider themselves as capability providers in the same manner as the services. Although FCCs have missions with global reach, those missions occur within the Areas of Responsibility (AORs) of the GCCs. When all is said and done, the GCC will have to address the consequences of any FCC actions and, therefore, the original mission should occur at least with the GCC's awareness. The GCC will likely provide conventional support to the FCC in the form of forward basing, sustainment forces, or regional intelligence assets. And in doctrinal terms, the FCC may

[16] Joint Publication (JP) 3-0, *Joint Operations*, 2006, II-12.
[17] George Flynn (Lt Gen USMC, Joint Staff J7 Director), interview by the author, 15 November 2012.

be the supported command, but it is truly working within the GCC's AOR on a mission that impacts the GCC's theater plan and objectives. This is more representative of a JTF working on behalf of the GCC to address a specific crisis requiring the support of multiple service capabilities than reflective of a Combatant Command executing an operation that crosses geographic boundaries.

Recently established FCCs should follow the model of US Transportation Command (TRANSCOM) and USSOCOM when providing capabilities to the Joint Force. Rather than attempting to inject capabilities from the peripheries of a Joint Force, capabilities within USCYBERCOM and AFGSC must be integrated into the overall Joint Force so that planners can effectively distribute capabilities across domains. Unlike the force-centric concepts expressed in GIO, a capabilities-based approach seeks to bring both the direct and indirect capabilities together through unified effort toward common goals. A critical enabler is allowing domain experts to determine the effective application of those capabilities.

Figure 17 depicts a simplified example. Previous concepts applied land forces (US Army and US Marine Corps) to gain control of territory and prevent an adversary from gaining control of friendly territory. In the example above, the military objective, in support of an overall political objective of bending the adversary to allied will, is to halt the adversary's land-based advance and demonstrated ability to threaten friendly territory in the future. Plausible decisive points were determined and laid along an LOO. Following the mindset of Cross-Domain Integration, capabilities were shift from their

traditional domains of operation and are employed to gain and maintain command of the land domain.[18]

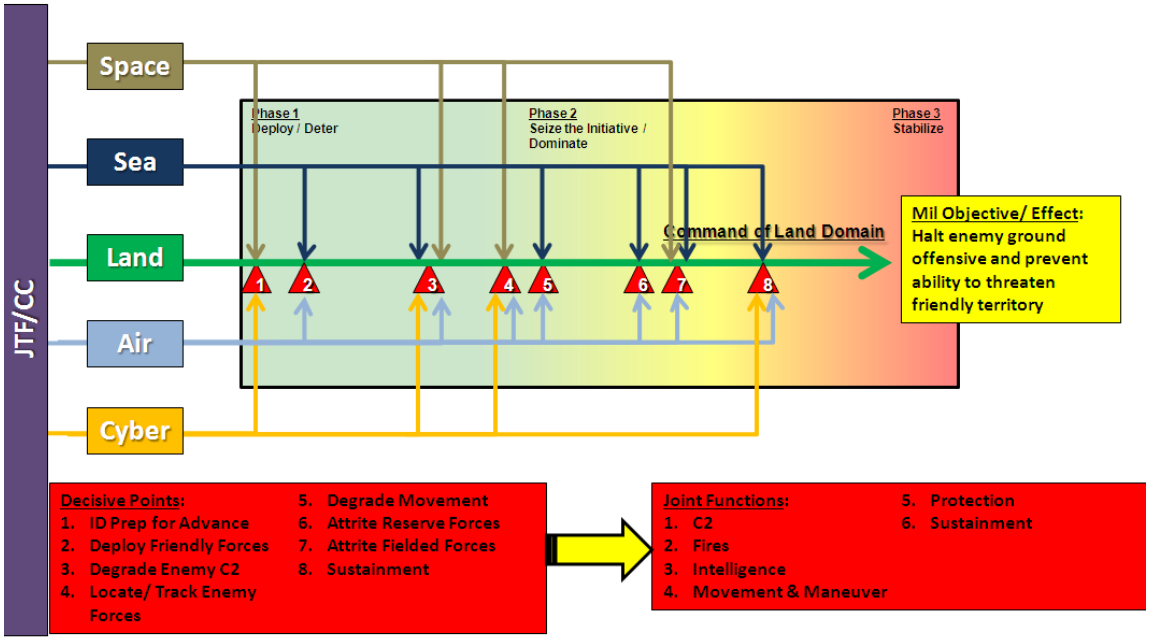

Figure 17: Cross-Domain Application of Capabilities

Source: Author's Concept

By attacking the adversary through multiple domains and from indirect approaches, all focused on a common objective, unity of effort is enhanced and the application of traditional land domain capabilities becomes more effective.[19] Of significance, notice that the land LOE flows along the entire LOO and impacts all of the objectives. This indicates that the actions and capabilities from other domains are guided by the expertise of the domain's lead capability. Marshal of the Royal Air Force J.C. Slessor promoted a similar argument. He argued that the focus of airpower should shift

[18] John B. Sheldon, "Toward a Theory of Cyber Power, Strategic Purpose in Peace and War," in *Cyberspace and National Security* (Washington, DC: Georgetown University Press, 2012), 215.
[19] Basil Henry Liddell Hart, *Strategy* (New York: Meridian, 1991), 218. Liddell Hart identified this as core to the early success of the German forces in WWII. The Germans "avoided head-on assaults, and always sought to find 'soft spots'" (page 218).

in response to the conditions of the land battle.[20] This requires a couple of significant shifts in mindset, both linked to domain expertise.

Firstly, individuals with expertise in gaining and maintaining command of a portion of the target domain should command the task force charged with that mission. An Army or Marine Corps commander has been specifically trained to identify opponent weaknesses, centers of gravity (COG), strong points, and decisive points necessary to control that land domain. Similarly, the Navy trains its commanders in how to gain and maintain command of the sea, and the Air Force command of the air. The Joint Force Commander needs to leverage this expertise and understand that as phases of a campaign progress, the individual that has overall command of a given phase should be shifted to match adjustments in phase focus. This is not to suggest changing JTF/CC designation, but supporting and supported relationships must be fluid and responsive to the phase of operation being executed. In the same light, the phase commander must look toward the experts support him in how best to gain the desired effect.

Secondly, rather than dictating specific tasks to supporting commands, the supported commander should be expressing the commander's intent and rely on the domain experts to provide the means to best employ the capabilities available. For example, in the land campaign depicted in Figure 17, an Army or Marine Corps commander has determined that a decisive point is the degradation of the opposition's C2. By providing the supporting commands with commander's intent that specifies enemy C2 abilities degraded by 50 percent for five hours, various options come to light.

[20] John Cotesworth Slessor, *Air Power and Armies* (Tuscaloosa, AL: University of Alabama Press, 2009), 80. Slessor argued that airpower should shift its focus as conditions within the ground campaign changed. Specifically, he asserted that airpower should target the fighting troops during actual ground battles, target production during times of comparative inactivity, and supplies in the field during the buildup prior to battles (page 80).

The air, land, and sea domains could provide a kinetic strike option, the air, space, and cyber domains could offer non-kinetic options. Of importance are the options available, which allow the commander to determine how best to distribute available assets across all the LOOs within an operation. Rather than then dictating specific tasks for each component to accomplish, allow domain experts to determine which capabilities will best produce the desired effect.

Finally, as depicted in Figure 17 above, the process of employing capabilities will be more effective when following doctrinal joint functions; Command and Control, Fires, Intelligence, Movement and Maneuver, Protection, and Sustainment. As offered by the Center for Strategic and Budgetary Assessments (CSBA), this allows the comparison of similar capabilities and better decision making.[21] Consideration of Joint Functions will naturally drive military planners to think in terms of capabilities, rather than service forces. This process places the focus on the capability and its application within the joint environment, rather than on application of a service force. A capabilities-based approach is not a new concept; it has been repeated time and time again throughout history.

OPERATION COBRA - 1944

Accounts by Thucydides, events in WWII, and events in Operations Desert Storm demonstrate how the concepts upon which Cross-Domain Integration is constructed are not new. A brief examination of one such example highlights how the employment multiple capabilities, even when counter to the military doctrine of the day, successfully gained marked advantages in the battle space. Military commanders have utilized capabilities-based planning many times to overcome critical capabilities deficiencies and

[21] Todd Harrison and Mark Gunzinger, *Strategic Choices Navigating Austerity* (Washington, DC: Center for Strategic and Budgetary Assessments, 2012), 21.

gained required advantages on the battlefield. One such example is found in the Allied plan to break out of the Normandy area during World War II (WWII). Defying notions of deconfliction of operations previously described in Chapter One, General Omar Bradley pooled available resources and gained a marked advantage over the enemy which facilitated accomplishment of the mission—the breakout from Normandy and continued advance across western Europe.

Bradley himself identified the challenge that the Allied ground forces faced in July 1944 as "a real danger of a World War I-type stalemate in Normandy."[22] Both Bradley and Field Marshal Bernard Montgomery's attempts to break out of the hedge rows had so far failed and the Allied offensive had ground to a halt.[23] General J. Lawton Collins, who eventually led the VII Corp in OPERATION COBRA, described the situation as "the deadliest, most difficult fighting I experienced in France…much like the jungle fighting in the Pacific against the Japanese."[24] If the Allies could not breakout, the likelihood was that the Germans would eventually be able to push them back off the Normandy shores.[25]

The major problem that Bradley had to contend with was a lack of firepower. Bradley was unable to hit the German defensive points hard enough with the available artillery. Until this deficiency was overcome, the breakout could not be realized. In an effort to procure the firepower he desperately needed, Bradley crossed parochial divides and requested bombers from General Spaatz. Bradley understood that he could augment

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[22] Omar Nelson Bradley, *A General's Life: An Autobiography* (New York, NY: Simon and Schuster, 1983), 272.
[23] Bradley, *A General's Life*, 272.
[24] J. Lawton Collins, *Lightning Joe: An Autobiography* (Baton Rouge, LA: Louisiana State University Press, 1979), 232.
[25] Bradley, *A General's Life*, 278.

his artillery through the employment of fighter-bombers, medium bombers, and heavy bombers in a focused single strike against the German defensives south of St.-Lô-Périers.[26]

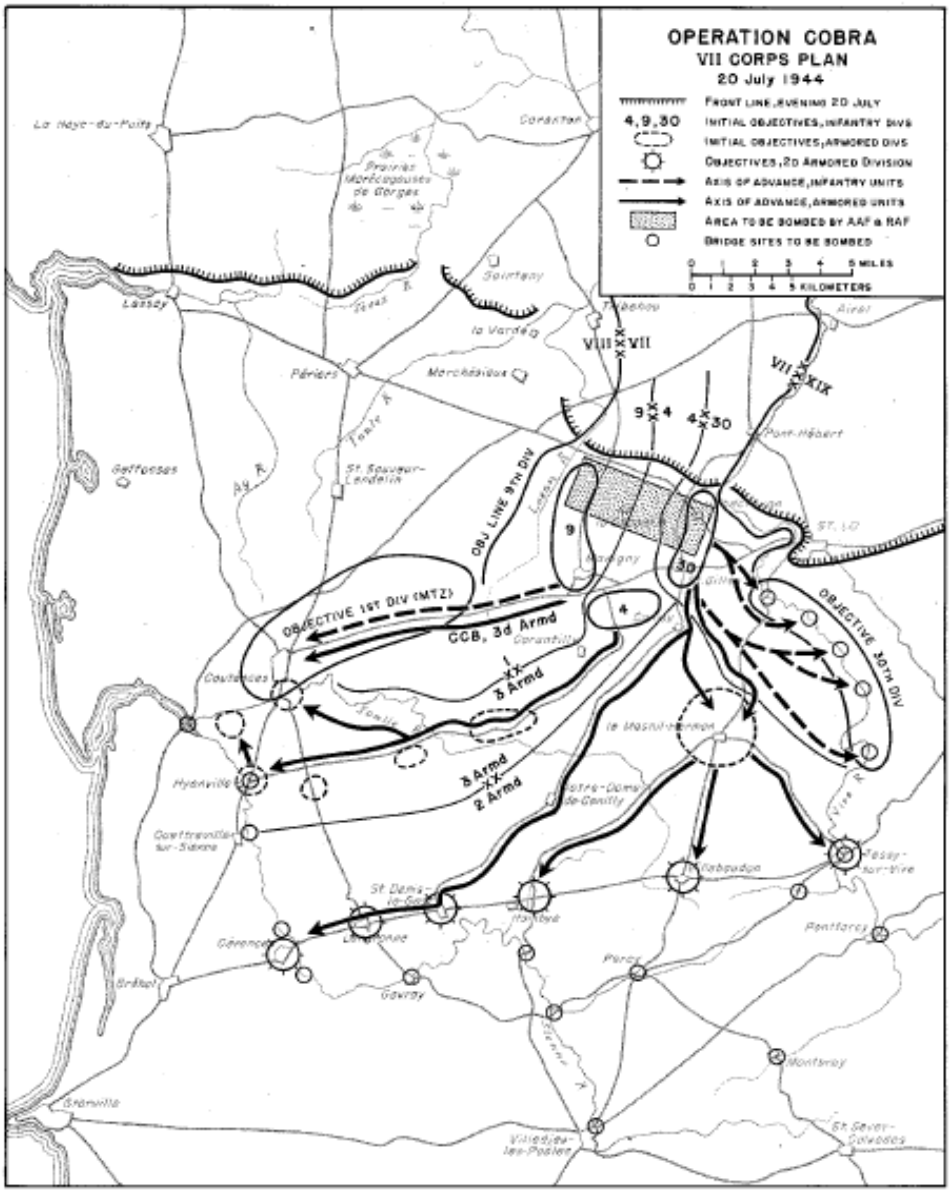

Figure 18: Map of Operation Cobra July 1944

Source: Martin Blumenson, Breakout and Pursuit (Washington, DC: Office of the Chief of Military History, 1961), 216

[26] Wesley F. Craven and James L. Cate, *The Army Air Forces in World War II, Europe: Argument to V-E Day, Jaunary 1944 to May 1945*, vol. 3 (Chicago, IL: University of Chicago Press, 1951), 231.

Dubbed OPERATION COBRA, the plan called for 1,507 B-17s and B-24s, 380 medium bombers, and 559 fighter-bombers dropping over 4,000 tons of munitions into an area 2,500 yards by 7,000 yards in size.[27] The objective was to employ airpower to "disrupt the enemy's communications, neutralize his reserves, and reduce his will to fight."[28] As depicted in Figure 18, following the saturation bombing, four divisions of VII Corps would advance through the target area and into the rear of the German forces. The rest of the Allied land component would then follow VII Corps through the created gap in the German lines.

The execution of Bradley's plan required the redirecting of a major portion of the Army Air Forces (AAF) assets. Spaatz, however, was decidedly against the use of strategic bombers in tactical missions, calling it "nothing more than the Air Force doing the Army's job."[29] From June of 1944 on, Spaatz would face constant attempts to divert the strategic bombing force from its primary mission of striking deep into Germany and instead support front line operations.[30] He saw little pay off for the extensive amount of planning needed to coordinate the bombing of small point targets with large formations of bombers.[31] Although Spaatz disagreed in the use of bombers outside their doctrinal role, he nonetheless allocated the entire complement of the Eighth Air Force heavy

[27] Craven identified the target area as 250 yards wide, Craven and Cate, *The Army Air Forces in World War II*, 231-232; Davis, on the other hand, noted the target area as 2,500 yards wide. The chart in Figure 17 and those in other references as well as Davis' makes 2,500 yards appear to be correct, Richard G. Davis, *Carl A. Spaatz and the Air War in Europe* (Washington, DC: Center for Air Force History, 1993), 464.
[28] Martin Blumenson, *Breakout and Pursuit*, (Washington, DC: Chief of Military History, Department of the Army, 1961), 220.
[29] John C. McManus, *The Americans at Normandy: The Summer of 1944-- the American War from the Normandy Beaches to Falaise* (New York, NY: Forge, 2004), 272.
[30] Davis, *Carl A. Spaatz*, 423.
[31] Davis, *Carl A. Spaatz*, 424.

bombers and Ninth Air Force medium bombers and fighters.[32] This was not the only confrontation that developed between the AAF and Army.

Several disagreements on timing, altitudes, and run-in headings for the bombrun had to be worked out. One of the most critical to Bradley was the type of bombs the AAF dropped. Previous interdiction missions had shown that standard impact fusing created large craters making it difficult for soldiers and tanks to advance through the target area. The AAF eventually agreed to employ bombs of 100 pounds and smaller to avoid excessive cratering.[33] The only remaining item of concern was that the AAF attack parallel to the road and thereby the front lines of VII Corps. Bradley was greatly troubled by the possibility of weapons falling short and into his front lines.[34] After much negotiation, Bradley thought he had received the support he needed and the plan was finalized. However, the AAF insisted on overflying the frontlines perpendicular to the road and front lines.[35]

There were two critical reasons why the AAF refused to fly parallel to the front line of VII Corps. First, and the reason highlighted by Army accounts, is that an eastern or western bomb run would leave the bombers vulnerable to antiaircraft fire.[36] However, the more pressing reason was that it was not physically possible to fly 1500 aircraft over a target area 2,500 yards wide in 60 minutes.[37] The AAF's final determination was that it was better, from an airman's point of view, to fly a north-south approach to the target

[32] Craven and Cate, *The Army Air Forces in World War II*, 3:232.
[33] Bradley, *A General's Life*, 277.
[34] Collins, *Lightning Joe*, 237.
[35] McManus, *The Americans at Normandy*, 277.
[36] John J. Sullivan, "The Botched Air Support of Operation Cobra," *Parameters* (March 1998): 101, http://www.carlisle.army.mil/usawc/parameters/Articles/1988/1988%20sullivan.pdf.
[37] Sullivan, "The Botched Air Support," 101.

area. This was the final plan that went forward, however, Bradley was left expecting a parallel attack.

H-hour of OPERATION COBRA initiated at 0938 on 25 July 1944 with fighter-bombers and medium bombers striking German locations south of St.- Lô-Périers.[38] As the attack proceeded, Collins observed from a nearby command post: "the roar of our incoming heavy bombers was terrific as, once again, they passed overhead, and the 'carumps' of the bombs shook the café as they exploded."[39] Disagreements between the Army and AAF on the final run-in course almost ruined a well-planned strike. Instead of attacking parallel to the Allied front lines, as Bradley desired, the AAF overflew the friendly force enroute to the target, which resulted in a large dust cloud obscuring the 2,500 by 7,000 yards target area as more bombs detonated on the ground[40]. Lacking a clear aim point, many bombardiers made a best guess, resulting in a significant number of short weapons landing among the front lines of VII Corps. General Hobbs was located within the impact area of these short weapons and later reported how "the ground belched, shook and spewed dirt to the sky…Scores of our troops were hit, their bodies flung from slit trenches"; it was the most terrifying thing he had ever seen.[41] General McNair, among many other U.S. soldiers, was killed by short bombs falling into Allied

[38] Craven and Cate, *The Army Air Forces in World War II*, 3:232.
[39] Collins, *Lightning Joe*, 240. Gen. Collins here eludes to the aborted strike on 24 July 1944. Originally OPERATION COBRA was scheduled for the 24th, however weather in the area drove the AAF to call off the strike. Several bomber elements did not get the word to scrub the attack and struck their assigned targets, many not being able to see the target through the cloud cover. The result was a significant amount of short weapons causing several casualties among the front lines of VII Corps (page 240).
[40] Bradley, *A General's Life*, 279.
[41] Bradley, *A General's Life*, 280.

lines.[42] Despite this setback, Collins immediately launched the attack by VII Corps against the German lines.[43]

Three infantry divisions, the 9th, 4th, and 30th, followed quickly by the Big Red One and armored divisions of the 2nd and 3rd, poured into the gap.[44] Although some pockets of German defenders attempted to resist, the majority were unable to mount an effective defense. VII Corps found an enemy cutoff from its command elements, buried tanks and bunkers, and soldiers unable to function due to shock.[45] General Hausser, Seventh Army commander, and Bayerlein of Panzer Lehr, described the effects of the bombing on his forces as raising havoc on his positions.[46] Defensive positions were "churned into mounds of dirt," tanks were overturned, communication lines destroyed, and radio equipment decimated.[47] Collins identifies that many German prisoners were found "wandering around in a daze, babbling incoherently, speaking with awe about the hell of la Chapelle en Juger, a key road and command-post centered in the middle of the target area, which was almost leveled."[48] As Badsey described it in his book, the "Panzer Lehr practically ceased to exist, losing all its tanks and two-thirds of its men"; this facilitated VII Corps' ability to advance 4,000 yards into the German lines.[49]

The example of OPERATION COBRA is of importance for several reasons. First, at a time when the Army and AAF observed strict lines of deconfliction between operations, commanders were able to look beyond service parochialism and develop a coordinated plan of operations. Second, the plan was integrated. It relied on specific

[42] Bradley, *A General's Life*, 280.
[43] Collins, *Lightning Joe*, 240.
[44] Bradley, *A General's Life*, 280.-281.
[45] Craven and Cate, *The Army Air Forces in World War II*, 3:235.
[46] Collins, *Lightning Joe*, 241.
[47] Collins, *Lightning Joe*, 241.
[48] Collins, *Lightning Joe*, 241.
[49] Stephen Badsey, *Normandy 1944: Allied Landings and Breakout* (London: Osprey, 1990), 69.

capabilities delivered at specified places and times to gain a marked advantage over the enemy. Without the degree of unity of effort insisted upon by Bradley, the plan would not have worked. Third, it provides a lesson on the risks run when participants of a mission are fixated on "the way we've always done things." The AAF could have accepted some higher risk, which was arguably negligible, and flown a bombrun parallel to the front lines of VII Corps. This would have required a longer period of bombing and made the task of hitting the small target area more difficult, but it would have greatly reduced the likelihood of fratricide. Fourth, and most important in the context of this research, it was an application of a capability, in a means outside of its original intention to gain freedom of maneuver in the accomplishment of the mission.

Spaatz did not support employment of strategic bombers in tactical missions. Spaatz was doubly annoyed when the air strike was called off late on the 24th. Not because of the bombs falling short, but because his crews had flown over targets that strategic bombers should not have been striking in the first place, and the targets were obscured by weather, while at the same time, Berlin had perfect weather for bombing.[50] Spaatz, however, broke his rule this once and was able to create a synergistic effect within the land domain that the traditional means of artillery were unable to provide. In the end, an operation like Operation Cobra was only feasible because the commander possessed a degree of trust and understanding in the Joint Force as a whole.

Developing Trust Within the Joint Force

Without developing a degree of trust among the members of the Joint Force, all the focus on a capabilities-based approach will be for naught. As Locher identified, and the Honorable Ike Skelton echoed, the Joint Force's performance in joint education has

[50] Davis, *Carl A. Spaatz*, 471.

been weak to say the least.[51] A significant improvement over the current curriculum that constitutes joint education is required to build a better understanding of the other services. The goal should not be making joint officers all of the exact same mind. As argued in Chapter Three, there is great advantage to having a mix of perspectives coexisting within the Joint Force. General James Amos, Commandant of the Marine Corps, argued this recently when he wrote: "Marines and amphibious naval forces operation in an expeditionary lane that makes use of position and tempo across the physical domains. The Marine Corps' special role in the Joint Force remains grounded in our ethos. Indeed, who we are shapes what we do, and how we do it…To understand the role of the Marine Corps in the nation's defense, you have to start with the individual Marine."[52]

As organizational theorist Gareth Morgan argued, although each perspective provides valuable information, they are also incomplete and it is through the combination of multiple perspectives that a complete picture is developed.[53] The desire is to develop the ability for service members to be able to step outside of their institutions and view the world through the perspectives of their sister services. This capability is critical to enable a discussion of the operational environment through a common language of joint operations.

The USAF Air University (AU) located at Maxwell AFB, AL is currently evaluating possible means of enhancing PME offered to both enlisted and officers. One

[51] The Honorable Isaac N. Skelton IV, "Remarks at the Ceremonial Presentation of the Doctor of Law, Honoris Cansa" (address at Maxwell AFB, AL, 05 November 2012). See also, James R. Locher, "Has It Worked? The Goldwater-Nichols Reorganization Act," *Naval War College Review* LIV, No 4, Autumn 2001: 112.
[52] Gen James F. Amos, "Who We Are" *Proceedings*, (November 2012):17, http://www.hqmc.marines.mil/Portals/142/Docs/121029%20Proceedings%20Amos%20Nov%2012.pdf.
[53] Gareth Morgan, *Images of Organization* (Thousand Oaks, CA: Sage, 2006), 338.

course already available is the Air Command and Staff College (ACSC) Cross-Domain Operational Strategists (CDOS) elective. Originally developed in response to the 2009 Future Operators Symposium, CDOS "seeks to recapture ACSC's visionary heritage by developing a codified forum that pushes its brightest students and faculty beyond the norms and core curriculum and current doctrine."[54] "CDOS is intended to produce officers with a more holistic perspective, capable of understanding what is important not only in their domain, but the other domains as well."[55] The desired final product, is an officer "steeped in advanced multi-domain operational planning."[56] This course moves beyond the standard joint PME classes, developing the desired *de facto*, the mindset of searching for better understanding of all the domains and means to better apply joint capabilities across the domains.

A common language can only be developed through education and practice. Today, the opportunities for joint training are extremely low. The US Army is currently evaluating options on ways to train its personnel in major combat operations.[57] However, the Army's plan thus far is focused on the development of a single-service training exercise.[58] The scenario for such an exercise is that the other services have accomplished their portions of the campaign and it is effectively the Army's turn to take action. This idea follows the influence of the *Joint Force 2020* and *JOAC 2012*, but is yet another example of the application of service forces, rather than joint capabilities. As the

[54] Dr Jeffrey Reilly, Department of Joint Warfare Studies, Air Command and Staff College, to Brig Gen Thomas H. Deale, Commandant, Air Command and Staff College, memorandum, 17 December 2012.
[55] Jeffery Reilly (Department of Joint Warfare Studies, Air Command and Staff College), interview by the author, 25 January 2013.
[56] Dr Reilly, to Brig Gen Deale, memorandum.
[57] Maj Brian Cozine, USA. Maj Cozine's draft thesis *Preparing for War: The Structure and Conduct of Large-Scale Maneuvers* for the USAF School of Advanced Air and Space Studies (SAASS) for academic year 2013 is intended to provide the Army with possible options.
[58] Maj Cozine, thesis development discussions in SAASS, Maxwell AFB, AL, 13 November 2012.

example displayed earlier in Figure 17, even assuming air, maritime, cyber, and space superiority, there are still significant support capabilities that may be offered to a land component commander by through the other domains. To ignore those capabilities during training, but then expect them to be readily available and seamlessly execute when the fog and friction of war is greatest, misses one of Clausewitz's greatest warnings.[59] "Everything in war is very simple, but the simplest thing is difficult. The difficulties accumulate and end by producing a kind of friction that is inconceivable unless one has experienced war…Countless minor incidents—the kind you can never foresee—combine to lower the general level of performance, so that one always falls short of the intended goal."[60]

Part of the DOD's future budget must include the funding to further develop the trust and teamwork upon which it already proclaims future operations depend. As it stands, the DOD knows it needs the Joint Force to rapidly integrate into a highly coordinated team, but has spent little time or effort to develop that capability through practice. If the future ability of the Joint Force is reliant upon its ability to come together rapidly in a highly integrated force, that capability must be nurtured and developed.

Together, a new joint PME and realistic joint training, directly address two critical areas of limitation within the Joint Force. As identified in Chapter Two, the two weakest areas of Joint Force performance have been the acquisition of future capabilities and joint education. Through the experience gained during joint training, the *de facto* can be changed and will better facilitate a capabilities-based acquisition process as recommended by the CSBA. By shedding overly redundant capabilities, the Joint Force

[59] CSM McCarter, interview.
[60] Carl von Clausewitz, *On War*, ed. Bernard Brodie, Michael Howard, and Peter Paret (Princeton, NJ: Princeton University Press, 1984), 119.

can be slimmed and made more flexible, while still resilient. But service members must be able to trust that those capabilities will be there as promised when it matters. That degree of trust is only gained through training together and developing an understanding of each other's services.[61] Furthermore, a robust joint PME plan can build the understanding of another service's perspective and thereby generate a common language for the Joint Force. Together these two improvements to the way the services approach the intentions of the GNA will change the modern day *de facto* that exists within the Joint Force.

Not Just Acceptable, but Desirable

As identified in Chapter One, the technology of the day provides a means for inter-service operations to be possible. To reiterate what historian Lynn White argued, technology by itself is in no way able to induce any degree of integration by itself: "As our understanding of the history of technology increases, it becomes clear that a new device merely opens a door; it does not compel one to enter. The acceptance or rejection of an invention, or the extent to which its implications are realized if it is accepted, depends quite as much upon the condition of a society, and upon the imagination of its leaders, as upon the nature of the technological item itself."[62]

As Figure 19 depicts, two other elements act upon the technology available and determine the final degree of unity of effort. The first is the *de jure* of the day; the codified regulations, laws, and directives that tell the Joint Force what is expected of them. As discussed, the Goldwater-Nichols Act of 1986 made significant improvements and established strong guidance on what constituted the optimum Joint Force. However,

[61] CSM McCarter, interview.
[62] Lynn Townsend White, *Medieval Technology and Social Change* (New York: Oxford University Press, 1964), 28.

in the end, it is up to the people to either choose to follow the *de jure* or shirk it. The *de facto* is the COG of today's Joint Force.

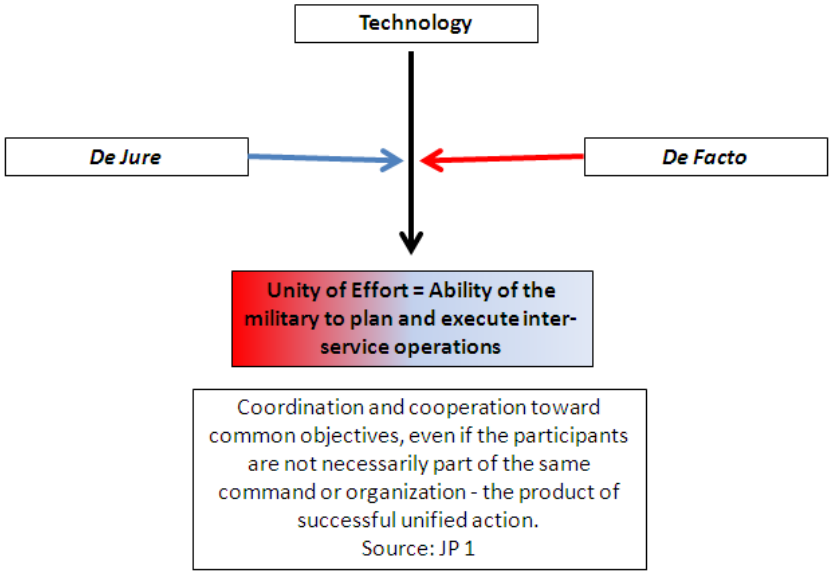

Figure 19: Elements Effecting Inter-Service Operation

Source: Author's concept.

In his examination of military command throughout history, historian Martin Van Creveld concluded that the decisive element of command is the ability to cope with uncertainty.[63] His analysis of history indicated that military organizations have attempted to employ more and more technology as a means to better reduce the degree of uncertainty. However, Van Creveld concludes that "there does not exist, nor has there existed, a technological determinism that governs the method to be selected for coping with uncertainty."[64] He argued that: "Furthermore, since any technology is by definition subject to limitations, historical advances in command have often resulted less from any technological superiority that one side had over the other than from the ability to

[63] Martin van Creveld, *Command in War* (Cambridge, MA: Harvard University Press, 1985), 268.
[64] Van Creveld, *Command in War*, 274.

recognize those limitations and to discover ways—improvements in training, doctrine, and organization—of going around them."[65]

Several years later, historian of technology Thomas P. Hughes, similarly argued that the people who use it determine technology's usefulness.[66] The answer to the question of how should the DOD advance beyond current concepts of Joint Operations is not more technology. Rather, the answer is found within the *de facto*; the attitudes of the people that make use of the technology and how they perceive it can be employed.

Summary

Until the attitude of the services, from the top of the chain of command to the bottom, not only recognize, but also desire the integration of joint capabilities, the Joint Force will continue to fight with one hand tied behind its back. This recognition is the only means to topple the historically impervious parochial walls that have surrounded the services and which continue to hinder attempts to forge a more capable Joint Force.

As the *Joint Force 2020*, the *JOAC 2012*, and this document proclaim, much more can be gained through the proper application of the Joint Force. The central proposition is that we should consider how best to apply joint capabilities rather than service forces across domains toward common objectives. By adjusting the *de facto*—the attitudes of the members of the Joint Force—the degree of unity of effort will rapidly increase. Again, the intent is to not subvert individual service tradition, history, and credibility. The objective is to bring the perspectives of all the services to the table, to enable military practitioners to consider the security environment from the various

[65] Van Creveld, *Command in War*, 275.
[66] Thomas P. Hughes, "The Evolution of Large Technological Systems," in *The Social Construction of Technological Systems* (Cambridge, MA: The MIT Press, 1989), 57.

perspectives of all the services and domains, and thereby develop a holistic approach that amplifies domain advantages to reduce domain weaknesses.

Without the realization of this ninth element as part of Globally Integrated Operations, the Joint Force will continually bang its head against a door that it has the keys to open. Although somewhat humorous, the reality is that each time the Joint Force fails to walk through the metaphorical door it costs millions of dollars, and more importantly needlessly risks the lives of America's finest, when a better, more survivable, more effective means of attaining US national interests exist. The Joint Force can wait no longer; it must embrace the next evolution of inter-service operations with both arms and step through the door and into the future.

Conclusion

Someone came to Jesus with this question: "Teacher, what good things must I do to have eternal life?"
"Why ask me about what is good?" Jesus replied. "Only God is good. But to answer your questions, you can receive eternal life if you keep the commandments."
"Which ones?" the man asked.
And Jesus replied: "Do not murder. Do not commit adultery. Do not steal. Do not testify falsely. Honor your father and mother. Love your neighbor as yourself."
"I've obeyed all these commandments," the young man replied. "What else must I do?"
Jesus told him, "If you want to be perfect, go and sell all you have and give the money to the poor, and you will have treasure in heaven. Then come, follow me."
But when the young man heard this, he went sadly away because he had many possessions.
Then Jesus said to his disciples, "I tell you the truth, it is very hard for a rich person to get into the Kingdom of Heaven. I say it again—it is easier for a camel to go through the eye of a needle than for a rich person to enter the Kingdom of God!"

Matthew 19:16-26

The encounter between Jesus and a rich man, as retold by the apostle Matthew above, serves as an elegant metaphor to the journey taken in this thesis. As identified by Matthew Mobley, Senior Pastor of Trinity United Methodist Church, the exchange above contains three critical elements: flippancy, gravity, and hope which are reflective of the Joint Force today.[1] The rich man flippantly approached Jesus looking for a quick and simple way to check a box and gain salvation. He was at the top of society, had everything he wanted, and expected that his status would allow him to breeze through the process of gaining his desires. Admittedly, the young man had kept all the commandments, almost.[2] Jesus opened the rich man's eyes to the gravity of the situation by telling the young man he had to give up all his riches to gain salvation. Ultimately,

[1] Matthew Mobley, pastor, Trinity United Methodist Church (address, Trinity United Methodist Church, Prattville, AL, 27 January 2013).
[2] Mobley, address.

Jesus was telling the young man to set aside his current god, his money, and worship the true God.[3] The one commandment that Jesus had not tested the rich man with was the commandment to love his God with all his heart mind and soul.[4] Finally, the exchange presents hope. Hope that if able to set aside one's earthly gods—the things that each person holds as most important—and follows God salvation can be had.[5] However, until the rich man was able to set aside his personal god of money, he would have more success in trying to pass a camel through the eye of a needle than attaining the salvation he desired. Admittedly, the goal of a more efficiently integrated Joint Force does not compare to eternal salvation, but if the theological disconnect can be set aside, the discussion above demonstrates the state of the Joint Force described in this thesis.

As demonstrated in Chapter One, the past successes of the US DOD have made it proud, the leader of the world, the top of its community, and, to a degree, flippant. On some level, there was an expectation that by meeting the mandate of a new *de jure*, the Joint Force could check a box and finally attain the unity of effort so desired. However, Chapter One also identified the predominance of the *de facto* of the services—that while advances in the *de jure* and technology facilitated a higher degree of unity of effort, the desire of individual services to look out for themselves over the common good has been a drag on the evolution of a more capable Joint Force.

Chapter Two continued the story. The Joint Force has kept the commandments of the Goldwater-Nichols Act—some better than others—but in general it has met the requirements placed before it. However, we have come to realize the gravity of the

[3] Mobley, address.
[4] Mobley, address. See also, Youth for Christ, *Life Application Study Bible* (Wheaton, IL: Tyndale House Publishers, 1988),1904. Mark 12:29 (page 1904).
[5] Mobley, address.

challenge placed before us. The security environment in changing, and the quick fix of a new *de jure* has not been good enough. Noted naturalist Charles Darwin argued that as an environment changes, the organisms that live within it are left with three choices: die, leave, or adapt.[6] Chapter Two's examination of the security environment shows it is changing; check that, it HAS changed. Past CJCSs had the ability to say that *expected* technological developments of adversaries would make it difficult for the US DOD to maintain its ability to project power globally.[7] But that future is here now, and, as Kurzweil noted, the rate of change is continuing to increase.[8] As the world continues to move forward, how should the Joint Force respond?

Colonel Mark V. Smith, PhD and instructor at the USAF School of Advanced Air and Space Studies (SAASS), argued that the first options presented by Darwin are actually non-options for the DOD.[9] We could decide to maintain the perspectives and paradigms as they currently exist, which will eventually drive the Joint Force to become obsolete and left along the side of the evolutionary superhighway as organizational road kill. Or, we could choose to be the dominant force somewhere else. But, as there is no other inhabitable planet within reach to which the nation can reasonably move, option two is also out. That leaves only the option to adapt to the new environment; again, the gravity of the situation stares us in the face.[10]

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[6] Quoted by Col Mark V. Smith, "Future Science for SAASS" (lecture, School of Advanced Air and Space Studies, Maxwell AFB, AL, 18 January 2013).
[7] Joint Staff, *Capstone Concept for Joint Operations, Version 2.0* (Washington, DC: Ft. Belvoir: Defense Technical Information Center, 2005); See also, Department of Defense, *Capstone Concept for Joint Operations, Version 3.0* (Washington, DC: Ft. Belvoir: Defense Technical Information Center, 2009).
[8] Ray Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence* (London: Penguin, 2000), 32–33.
[9] Col Smith, "Future Science for SAASS," lecture.
[10] Col Smith, "Future Science for SAASS," lecture.

But the exchange between Jesus and the rich man ended with hope, and so does this thesis. The exploration of military history from the Civil War through OEF and OIF displayed a continual adaptation of the three primary elements within the US DOD that has shaped its ability to plan and execute inter-service operations: *de jure*, *de facto*, and technology. Taken together, *de jure* and *de facto*, act upon the available technology resulting in a degree of unity of effort which directly dictates the prevalent attitudes toward inter-service operations. History proves the evolutionary change required of the Joint Force is not uncommon, but rather has occurred regularly. Change can happen, but it takes a conscious decision.

Chapter Three's analysis of a new paradigm, promoted by General Dempsey through the *JOAC 2012* and *Joint Force 2020*, documents part of the change needed. Both documents recognize that 80 percent of the Joint Force for the next several years is already programmed or exists today.[11] Rather than focusing exclusively on the development of future capabilities, General Dempsey is rightly encouraging the Joint Force to develop new ways of integrating existing technology. This is a recommendation to change the way we think about the world around us, and the strategic challenges we face, rather than how to build a new technology that will solve our future problems. There is no easy fix that technology can provide to the challenges of the future—the change must come from within.

Chapter Four, *A Capabilities-Based Approach: The Ninth Element*, paints the picture of that mindset in a discussion of a ninth element of Globally Integrated

[11] Joint Chiefs of Staff, *Capstone Concept for Joint Operations: Joint Force 2020* (Washington, DC: Department of Defense, 2012), iii; See also, Gen Marin E. Dempsey, United States Joint Chiefs of Staff, and United States Department of Defense, *Joint Operational Access Concept (JOAC)* (Washington, DC: Department of Defense, 2012), Foreword.

Operations. By injecting concepts of a capabilities-based approach from Cross-Domain Integration into Globally Integrated Operations, the proposed paradigm is better able to address the expected security challenges of the future such as the A2AD threat, budgetary decreases, and the need for a more flexible Joint Force. Core to a capabilities-based approach is a change in *de facto* that is reliant on more effective joint PME and realistic joint training. The Joint Force must set aside the worship of individual services and seek the advantages gained through a unified effort. We must develop the ability within military professionals to view the strategic environment through multiple perspectives. While each military member may see the world predominantly through the lens of their individual services, they must be able to set into the shoes of their sister services and understand the battle space that another service sees. As organizational theorist Gareth Morgan noted:

> To recognize and cope with the idea that all theories of organization and management are based on implicit images or metaphors that persuade us to see, understand, and imagine situations in partial ways. As has been shown, metaphors create insight. But they also distort. They have strengths. But they also have limitations. In creating ways of seeing they tend to create ways of not seeing. Hence there can be no single theory or metaphor that gives an all-purpose point of view. There can be no 'correct theory' for structuring everything we do. The challenge facing modern managers is to become accomplished in the art of using metaphor: To find appropriate ways of seeing, understanding, and shaping the situations with which they have to deal.[12]

Although Morgan is speaking to business managers about ways of visualizing how companies are organized, his words are highly applicable here. No individual service offers THE theory on how to view warfare, the security environment, or how individual campaigns should be planned and executed. Each service offers A theory, A perspective, and A way. We need to become a Joint Force that, rather than confining our

[12] Gareth Morgan, *Images of Organization* (Thousand Oaks, CA: Sage, 2006), 338.

view to a single perspective, is able to take hold of the challenges before us, turn them in our hands, and see the world through the eyes of our brothers and sisters in arms. We need to search for opportunities for collaboration, seek to understand the world through the eyes of others, and pull multiple ideas together into one cohesive plan of action.

A new *de facto* that seeks multiple perspectives enables the application of joint capabilities, rather than service forces, in order to gain advantages across all domains toward securing military objectives. A multifaceted perspective enables military strategists to envision means for allowing capabilities to cross out of their traditional domains of influence and serve to support operations within other domains. By pooling joint capabilities and presenting them in a new manner we can upset an adversary's view of the strategic environment, we can degrade their ability to orient themselves within the battle space, and thereby control the pace of operations. By employing indirect, low-signature means against critical nodes of the adversary, we can disrupt their operations and enable the direct means to effectively deploy to troubled areas. By changing the way we view and think about the battle space, the Joint Force is able to penetrate A2AD threats, shift focus toward an adversary's weaknesses, dictate the pace of an engagement, and gain a degree of domain superiority that enables the DOD to support the political objectives that drew it into the fray.

The genius of the future Joint Force will be found in the individual service leaders' abilities to set aside their institutional *de facto* for the betterment of the Joint Force as a whole. Only through a new *de facto* can our salvation be found, a salvation that enables us to build a more complete view of the battle space and more effectively employ joint capabilities across all domains in a truly integrated fashion. Or, as

Clausewitz noted: “Genius consists in a harmonious combination of elements, in which one or the other ability may predominate, but none may be in conflict with the rest.”[13]

[13] Carl von Clausewitz, *On War*, ed. Bernard Brodie, Michael Howard, and Peter Paret (Princeton, NJ: Princeton University Press, 1984), 100.

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